CHNOLOGY DEPARTMENT

Modern packaging

v 54

For cover story see p. 93

July 1948

Tinsley T. Jepson

How important is Leakage?

NEW! Paper drinking cup makers and producers of similar types of food containers have successfully tested **CUP-SEAM** — a new Resyn* adhesive that is highly water resistant and able to withstand contact with both hot and cold liquids for a prolonged time without leakage.

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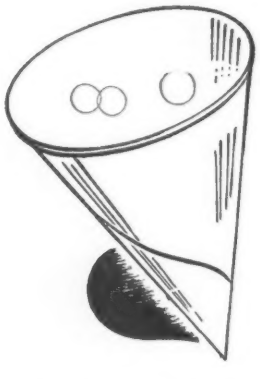

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Modern packaging

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PROCEED WITH CAUTION

THERE IS SIGNIFICANCE in the fact that 13 pages in this issue of MODERN PACKAGING are occupied by three articles dealing with the pre-packaging of fresh produce and meats—significance not merely in the space they occupy, or in the growing importance of a phase of packaging that was practically unheard of four years ago—but in the careful, scientific watchfulness that attends the development of pre-packaging.

Donald R. Stokes of the Department of Agriculture spent three years in the field gathering the facts and figures reported in his article "Pre-Packaging Conclusions" (p. 104). He concludes that packaging is no cure-all for produce; that some items actually do better without a package and others gain nothing from it—but that the right kind of package properly used will reduce costs and build sales.

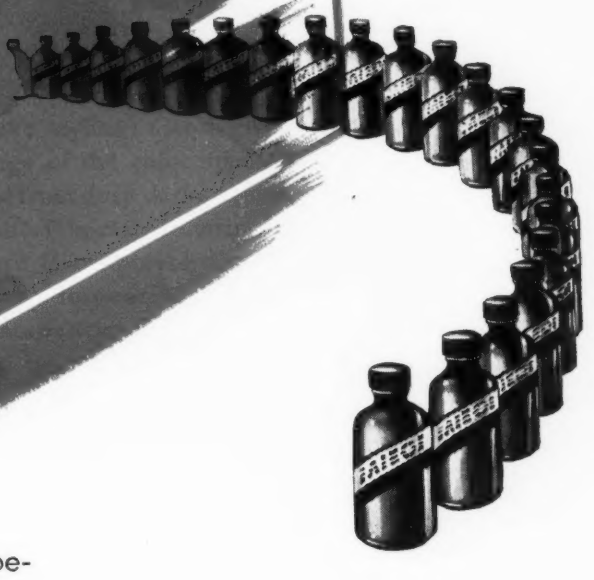
West Coast produce growers are still mainly concerned with shipping packaging. And that is sound. There is no use thinking of any general shift to pre-packaging at the shipping point until the problems of preservation during shipment are solved. Yet the trend to brand consciousness among growers is unmistakeable in the article "Produce" (p. 145) and the 13-billion-pound volume shipped annually from the four Western States remains a tremendous challenge to packaging.

Supermarket operators at their recent convention devoted an entire session to meat pre-packaging and the resulting article, "Meat Packagers Report" (p. 126), makes it clear that there are pitfalls as well as profits in running a packaging plant in the back room.

It augurs well for the success of pre-packaging that it comes upon the scene at a time when packaging generally has risen to the stature of a science.

The Editors

Why spend $1.35 cartoning 1000 bottles . . . when you can do it for 12¢ ?



This drastic cost reduction is the actual experience of a leading manufacturer who was hand-loading 2½ oz. bottles into cartons. Daily output was 57,600 loaded cartons. Wage cost for hand-loading amounted to $1.35 per 1000 units.

When a new, high speed Jones Constant Motion Cartoner was installed, daily output jumped to 75,000 units. Loading cost per 1000, including machine depreciation, power, maintenance, and operator wages *was reduced to 12.1¢.* The manufacturer is saving $461.25 per week —and is receiving finished packages far superior to those produced by hand.

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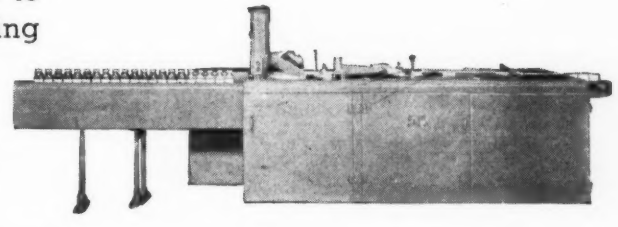

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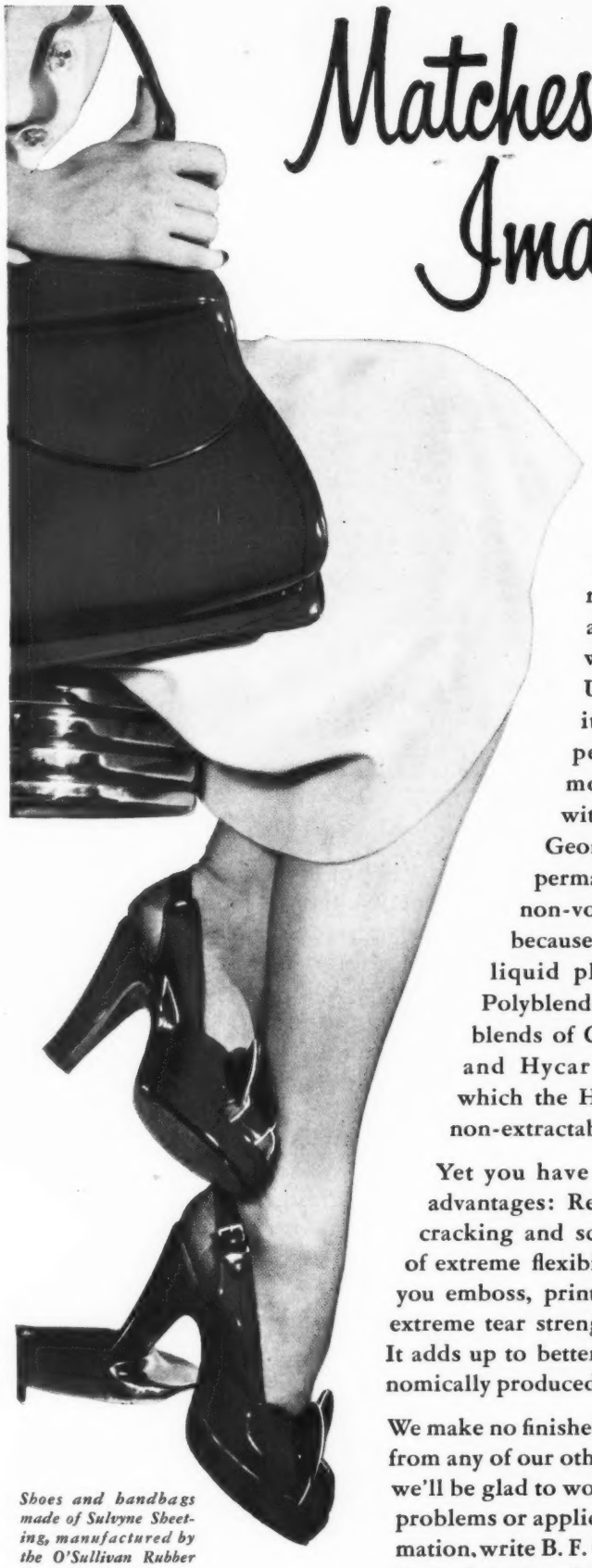

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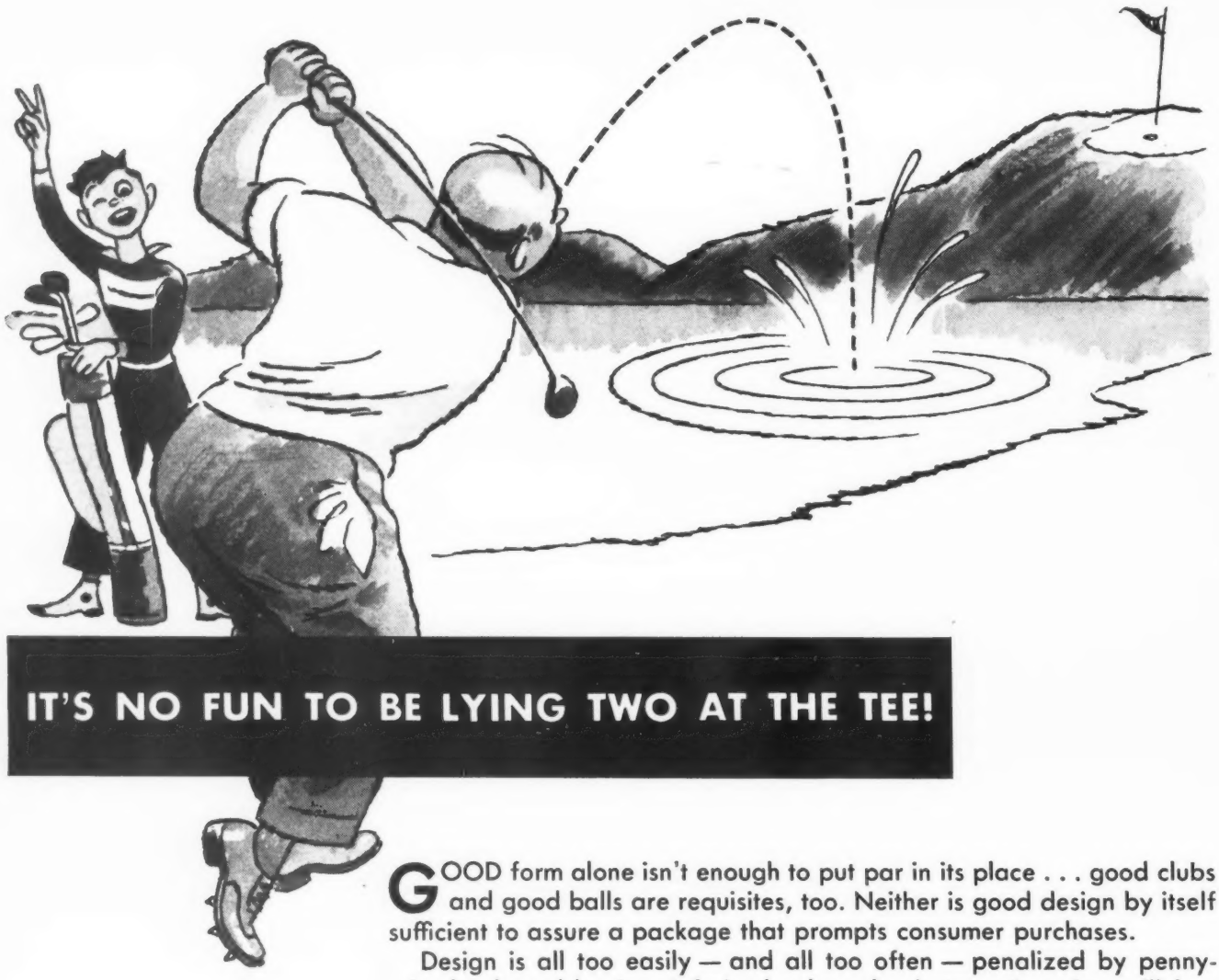

IT'S NO FUN TO BE LYING TWO AT THE TEE!

GOOD form alone isn't enough to put par in its place . . . good clubs and good balls are requisites, too. Neither is good design by itself sufficient to assure a package that prompts consumer purchases.

Design is all too easily — and all too often — penalized by penny-wise boxboard buying. Inferior boxboard, whatever its price, will *lose* you money instead of *saving* it . . . through poor printing, production delays, color fading and similar shortcomings.

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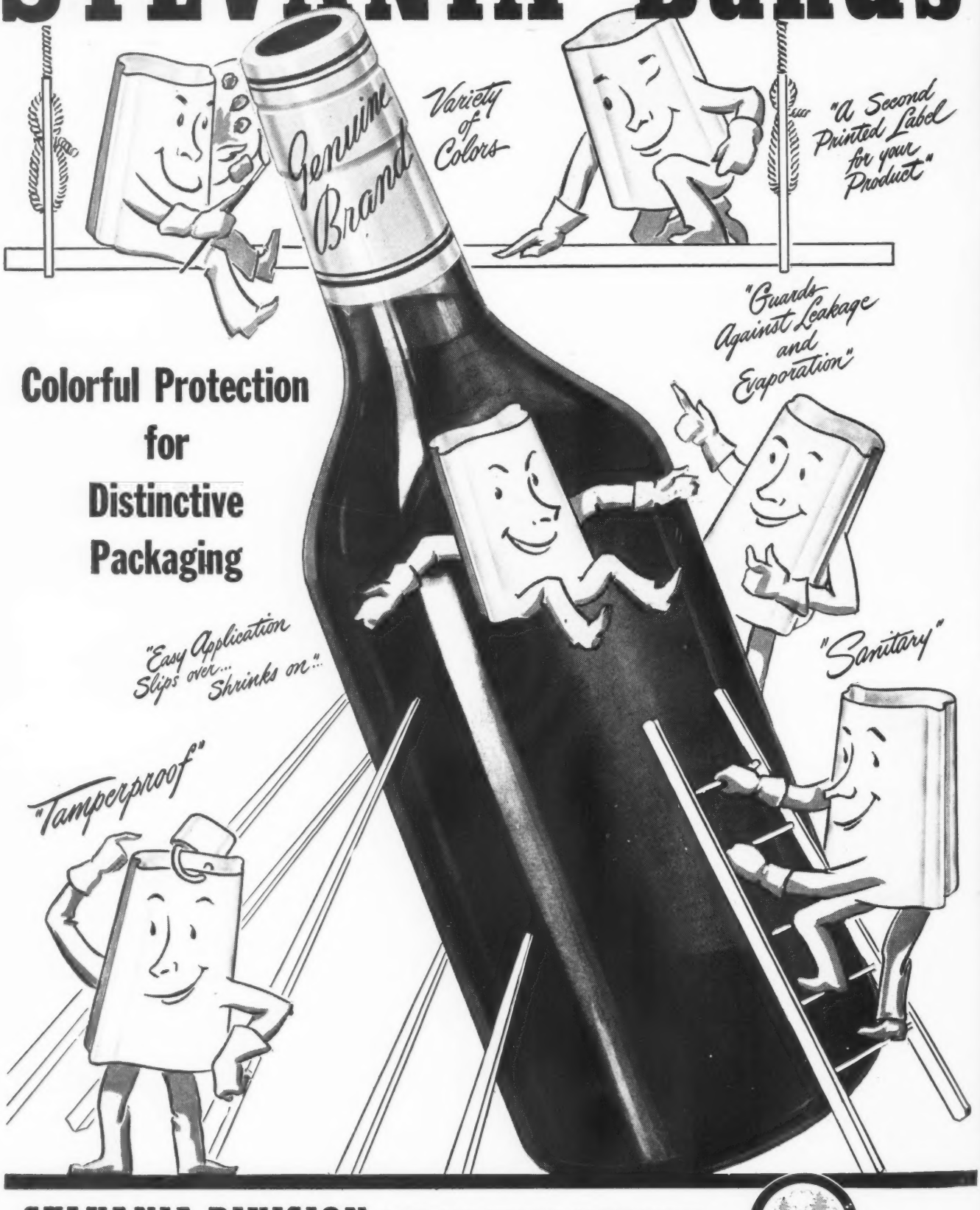

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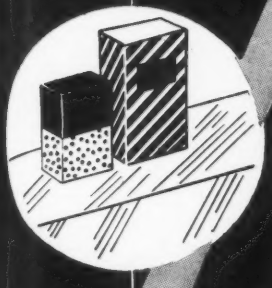

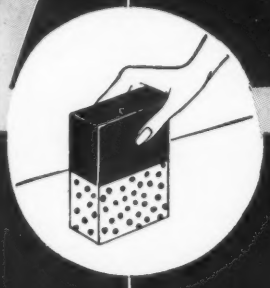

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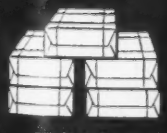
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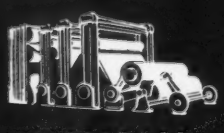
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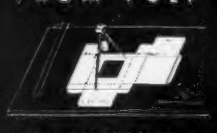
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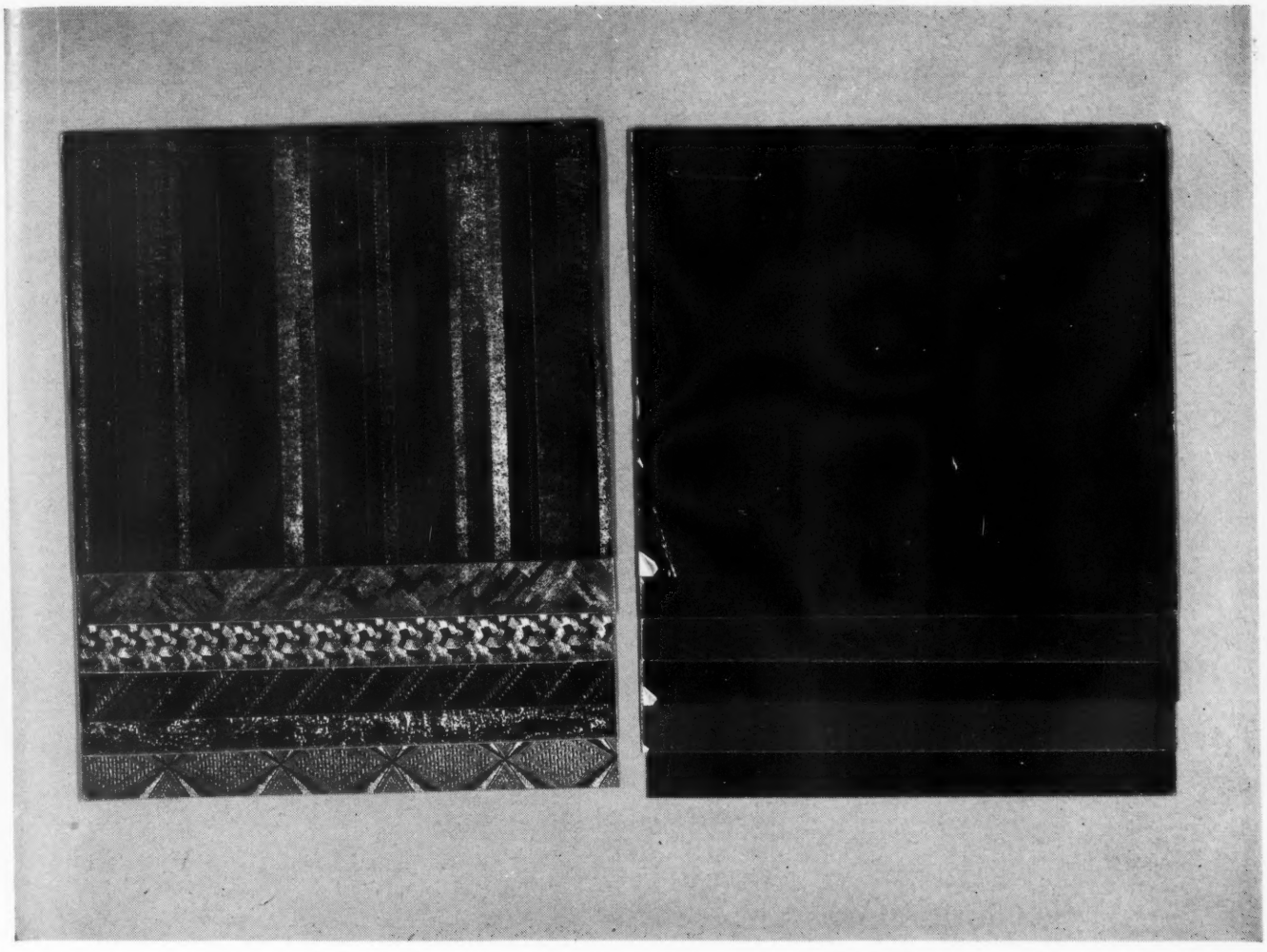

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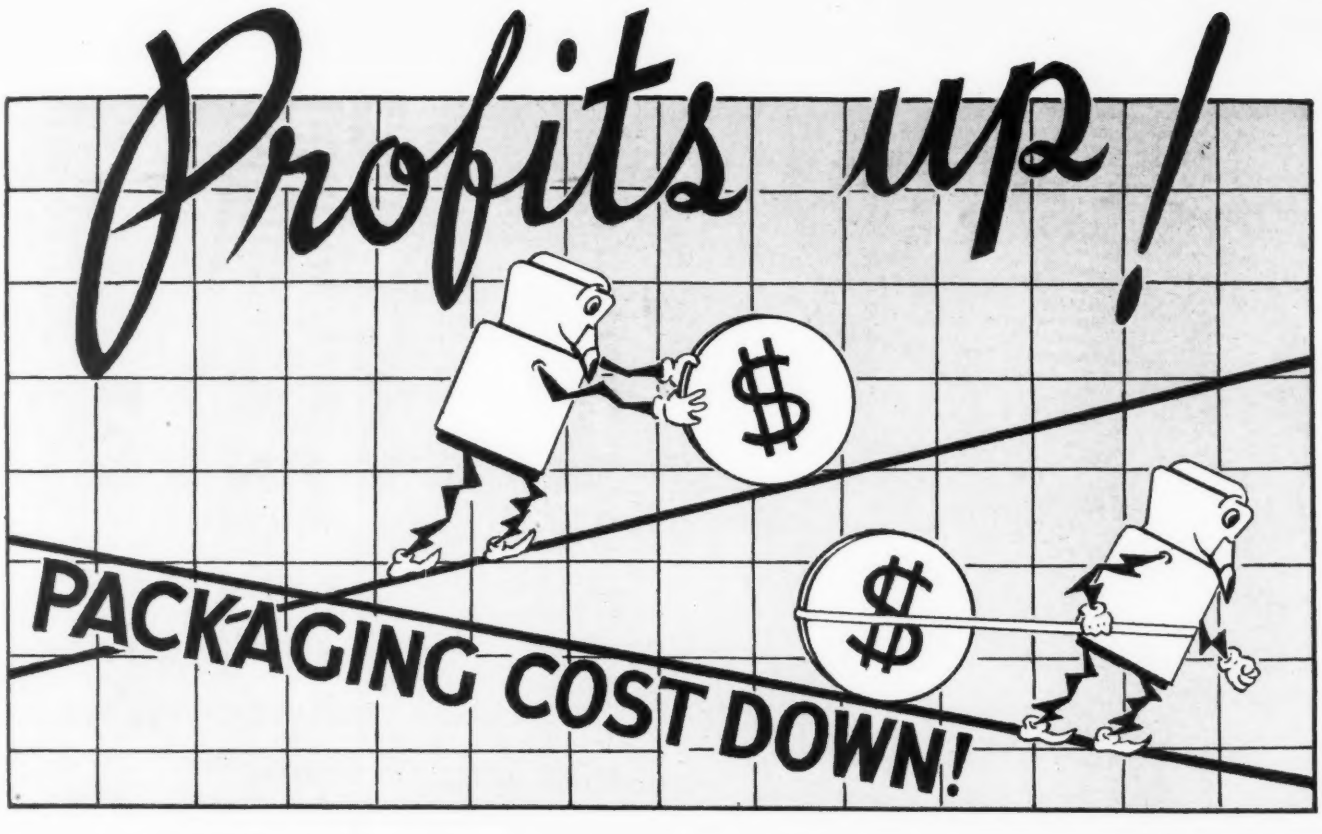

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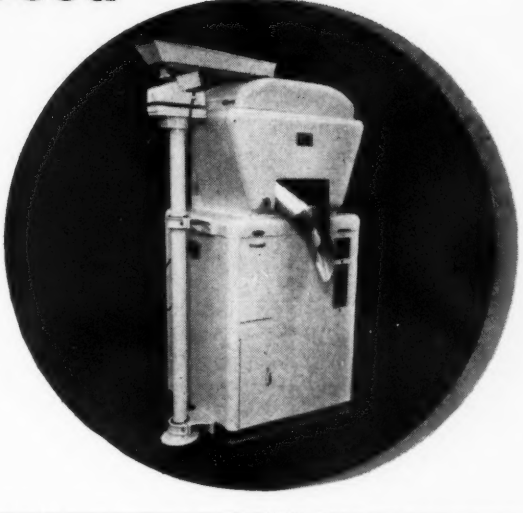

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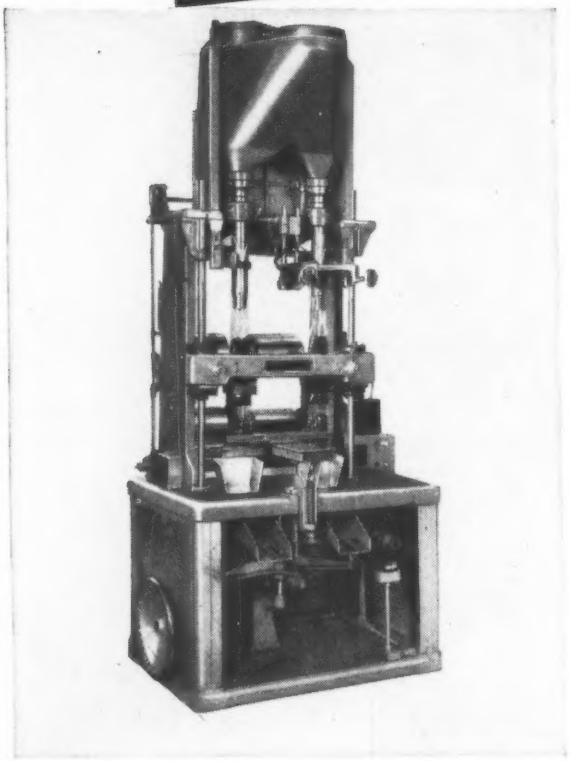

Model BS "Stokeswrap" Packaging Machine

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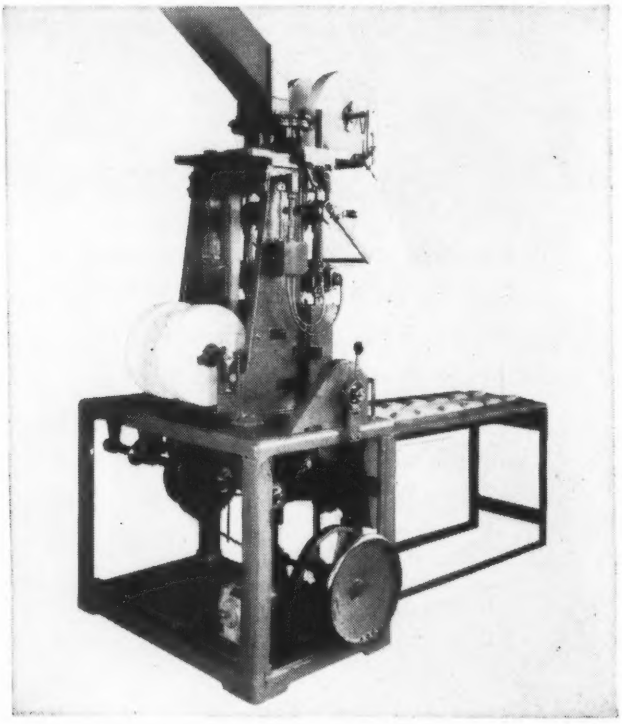

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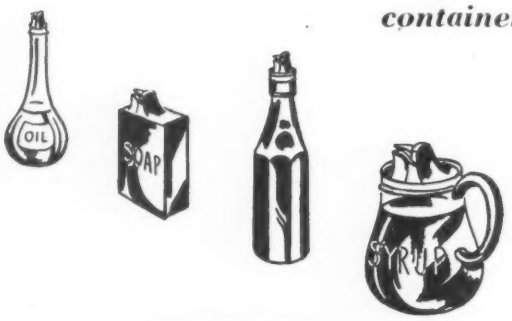


TUPPER **adds the final buying urge to your product.**

All across the country women are buying TUPPERWARE — canisters, bowls, refrigerator bowls, tumblers, cups, saucers, creamers; for kitchen and dining table. That's why TUPPERWARE packaged products have an edge on others — they're pre-sold on the first impression . . . already approved by housewives. Can't break, chip, or crack. Valuable in their re-useability; versatile in adaptation to many products and there's no more odor or taste than you would expect from glass or china. TUPPERWARE — a package that is a premium in itself.

Let Tupper Solve Your Package Problems.

DEPT. A

TUPPER CORPORATION, FARNUMSVILLE, MASSACHUSETTS · NEW YORK SHOWROOM, 225 FIFTH AVENUE

©1948 TUPPER CORPORATION

It's CANDY CANE

THIS gay, exciting pattern is available on flint and metallic finished paper in a wide range of smart modern color combinations.

You can get immediate delivery in quantity now. Moreover, we've made special inventory and printing arrangements so that, at most, only minor delays will occur during re-runs of particular color combinations.

Write for SAMPLES AND PRICES

KUPFER BROS. CO.
4 ASTOR PLACE, NEW YORK 3, N. Y.

Manufacturers of Surface Coated Papers Since 1845

KUPFER BROS. PAPER CO.
145 West Hubbard Street
Chicago 10
Illinois

Southwest Representatives
MODERN PACKAGINGS
1214 S. Akard St.
Dallas 1, Texas

EDWARD M. MARKS CO.
8334 West Third Street
Los Angeles 36
California

GRAHAM-JONES PAPER CO.
730 North Myrtle Ave.
Jacksonville 4, Fla.

Branches in: BOSTON • PHILADELPHIA • SEATTLE

THE BEST DRESS IS NONE TOO GOOD!

IN THESE days of growing competition, the dress of your product cannot be too good. It must get attention, create desire, and *sell* as never before.

A. C. M. Clay Coated Cartons stand out in the stiffest competition. Pure white, velvet smooth surfaces print better, have greater luster, more eye-appeal. Perfect color reproduction *sells* the shopper that contents are fresh, clean, desirable.

Investigate our complete packaging service for advantages of a new, better, more buy-compelling carton for your product. No obligation! Write, wire or phone the sales office nearest you.

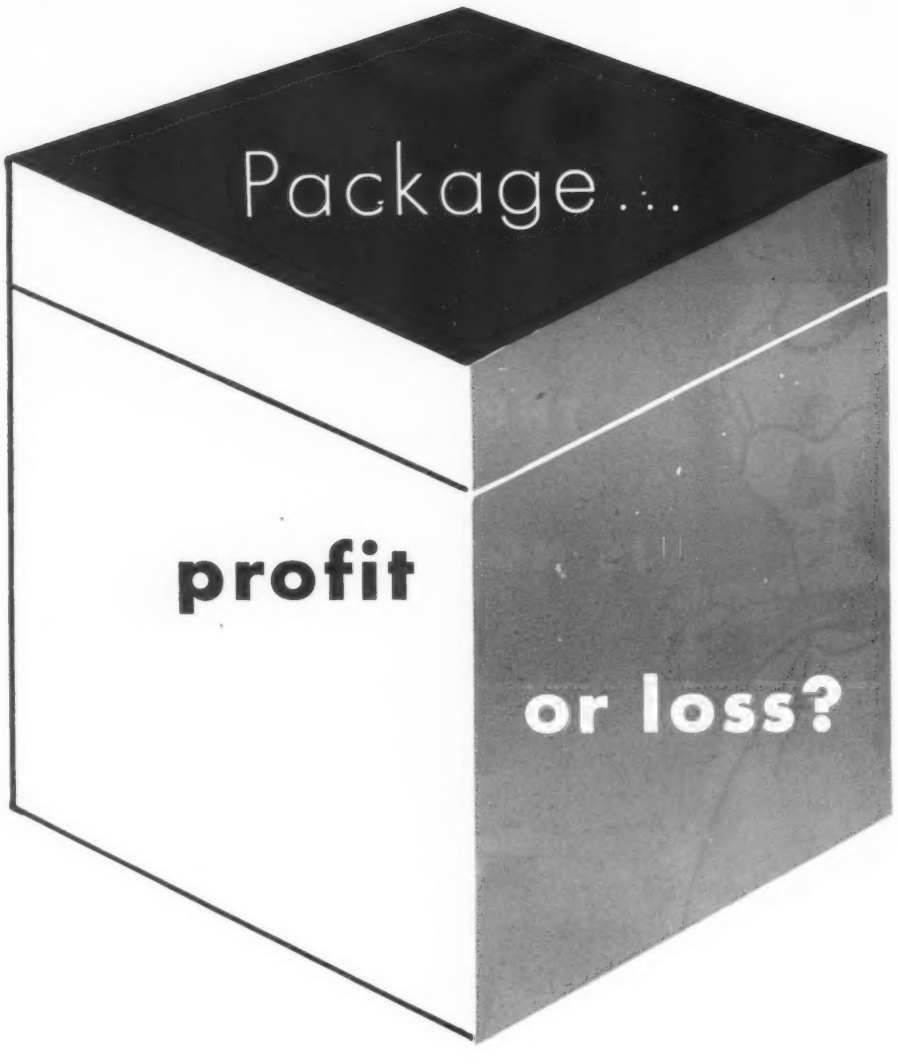
● **AMERICAN COATING MILLS**
Division of Owens-Illinois Glass Company
PLANTS: *Elkhart, Ind.* • *Chicago* • *Memphis* • *Grand Rapids*

America's Largest Producers of Clay Coated Folding Boxboard and High Quality Printed Cartons

The Secret is in the SURFACE!

A.C.M. Clay Coated Cartons and carton board

SALES OFFICES: *Chicago* • *New York* • *Elkhart* • *St. Paul* • *Memphis* • *Grand Rapids* • *Evansville* • *Detroit* • *Indianapolis* • *Cleveland* • *Pittsburgh* • *Atlanta*



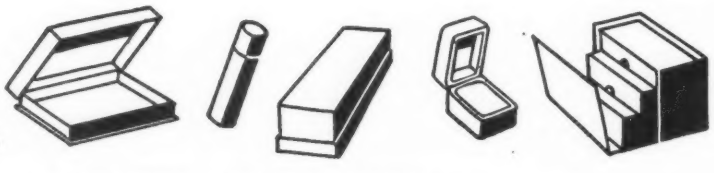
Add up your packaging costs . . . all of them, from product manufacture to retail sale. How are those costs affecting your profits? Now consider what the versatile set-up box adds to the profit side of your ledger — style, sales appeal, product protection, brand identification, take-home value — yes, all that, and added economy, too. These features combined give you more for your money. Added sales appeal alone can put your set-up packaging on the profit side of your ledger.

NATIONAL PAPER BOX MANUFACTURERS

Association

AND COOPERATING SUPPLIERS

Liberty Trust Building, Philadelphia, Penn.



FOR INFORMATION OR SERVICE . . .
CONSULT YOUR NEAREST SET-UP BOX MANUFACTURER

How to close an "appetite appeal" package

Acme-Champion bag stitchers and Acme Silverstitchers provide California grower with most efficient, sturdy closure operation . . .

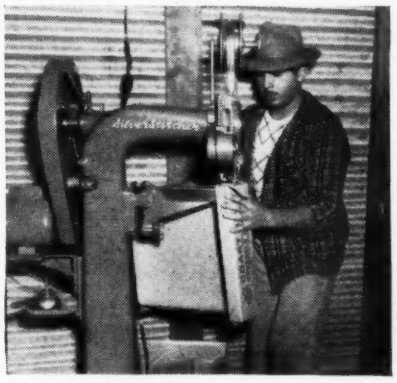
Make it attractive . . . show the product . . . make it clean, inviting to handle, easy to carry home—these are the basic principles of good packaging.

By following these simple rules, Santa Cruz Artichoke and Sprout Growers Association of Santa Cruz, California, is winning a national reputation for good packaging of fresh vegetables.

These pictures show how Acme stitchers are providing the closures for this "appetite appeal" packaging operation of cellophane bags and delivery-display cartons. Acme Shipping Specialists have worked hand-in-hand with this grower to meet the ever-increasing demand from stores and consumers.

We are ready, willing, and able to help you get similar closure success—whether you package by bag, box, carton, or barrel. Mail the coupon for more information, or call the nearest Acme district office.

CLOSING SPEED of 49 dozen bags per hour—that's what it takes to keep up with demand for Coast King Brand Brussels sprouts. Acme-Champion bag stitchers do the job.



ACME SILVERSTITCHERS stitch the delivery cartons which are also display trays for showing and selling the packaged product in grocery stores.

READY FOR SHIPPING AND MARKET—completed bags and cartons (both stitched by Acme methods) are ready for shipment by train and plane.

STITCHING WIRE DIVISION

ACME STEEL COMPANY

NEW YORK 17 ATLANTA CHICAGO 8 LOS ANGELES 11

ACME & MORRISON
SilverStitchers
REG. U. S. PAT. OFF.

AND SILVERSTITCH BOX-STITCHING WIRE

Acme Steel Company, Dept. MP-78
2838 Archer Avenue, Chicago 8, Illinois

Please send me more information on the Acme-Champion Single Head Stitcher for specialty bag stitching.

Name.....

Company.....

Address.....

City..... Zone..... State.....

VISIT OUR BOOTH AT THE WESTERN PACKAGING SHOW, SAN FRANCISCO, AUGUST 10-13

"A SMART PACKAGE MAKES A BIG DIFFERENCE" ...MR. CELLOPHANE

The qualities you need for successful candy packaging are engineered into Sylvania Cellophane. Every step in its manufacture is carefully checked to assure you of maximum dust, grease and water vapor protection. This careful control explains Sylvania Cellophane's uniform transparency and strength . . . heat sealing qualities and excellent printing surface. It reflects an understanding of your problems and ready cooperation in solving them.

SYLVANIA CELLOPHANE

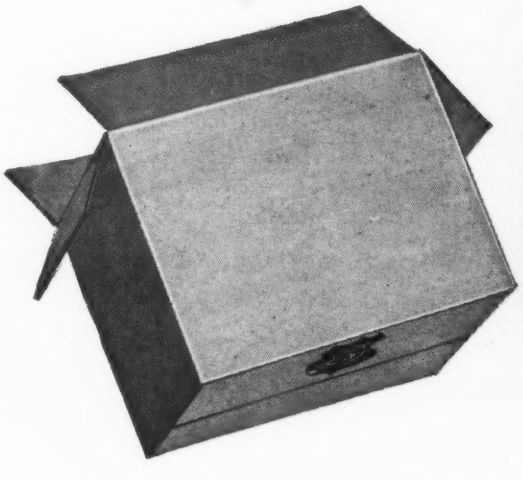
SYLVANIA DIVISION AMERICAN VISCOSE CORPORATION

Manufacturers of cellophane and other cellulose products since 1929

General Sales Office: 350 Fifth Avenue, New York 1, N.Y. *Plant:* Fredericksburg, Va.

Experienced buyers look at the Pedigree

buyers of boxes, too



THE COCKER SPANIEL, American member of a family that traces back to the 14th century, is still a great favorite with sportsmen. Cockers are said to be so named because they were first used in hunting woodcocks. Affectionate and merry, they are perfect family pets.

FOR ASSURANCE OF *Quality*
FOR ASSURANCE OF *Service*
FOR ASSURANCE OF *Fair Price*

MOST corrugated containers *look* alike. But the difference shows up in performance.

The famous Union shield trade-mark is your assurance that every step in making the box, from the forest to the finishing room, is handled by trained personnel in the largest Kraft pulp-to-container plant in the world.

It symbolizes seventy-five years of leadership in designing, engineering and producing paper packages . . . plus long experience as one of the nation's larger producers of Kraft container board.

You can rely on Union shield-marked boxes to give you quality and service at a fair price—not only this year but for years to come!

UNION *Corrugated Containers*

UNION BAG & *Paper Corporation*

Principal Offices: WOOLWORTH BLDG., NEW YORK 7, N. Y.

Corrugated Container Plants: **SAVANNAH, GA. • CHICAGO, ILL. • TRENTON, N. J. • JAMESTOWN, N. C. (Highland Container Co., Inc.)**

Make more eyes

reach for your product...
in cartons of Coated Lithwite*

MANY FAMOUS PRODUCTS ARE GETTING AN EYE-CATCHING DISPLAY ADVANTAGE IN FOLDING CARTONS OF COATED LITHWITE . . . THE QUALITY CLAY-COATED BOARD, PLUS!

Right now, many a sales department really has *its sleeves rolled up*. Chances are, *yours* is one of them. You're looking for every way to get a break over competition.

Cartons of *Coated* Lithwite can *give* you one, an important *eye-catching* break—where it counts most—right on the dealer's shelf and counter.

For this revolutionary clay-coated board (the clay-coating is filmed on with mechanical uniformity in one straight-through operation) is unusually white and bright. Its surface is chalk-free, velvet-smooth. Colors come up brilliantly on cartons and packers of *Coated* Lithwite. Product pictures reproduce with a sharp, "reach-for-me" realism. Gardner-Richardson's Precision-Engineered craftsmanship means better filling machine performance, too . . . less waste . . . fewer jammers and leakers . . . less down time.

Worth investigating, isn't it? Write. We'll send a representative with complete facts.

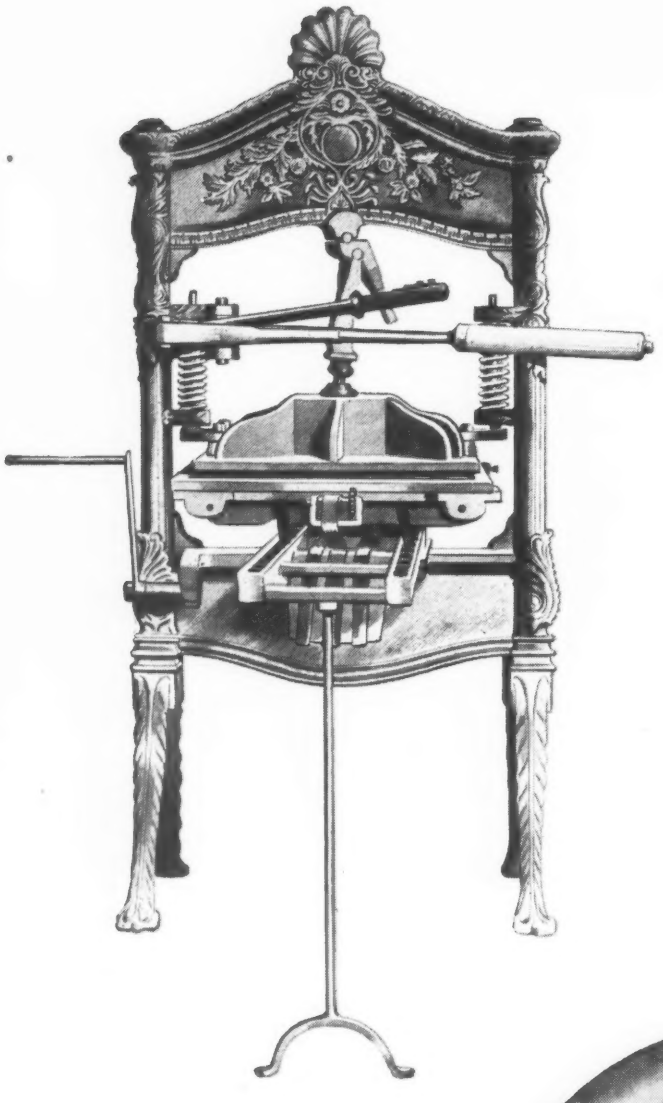
Ask us to DESIGN more sales into your package

Want us to face-lift an old package design? Design a brand-new package with greater display value, shelf appeal, utility? Do you have something new that's never been packaged before? Gardner-Richardson's team of designers, artists and craftsmen will be glad to tackle your problem on a strictly "show-you" basis, without obligation. Write, today.

THE GARDNER-RICHARDSON CO.

Manufacturers of Folding Cartons and Boxboard, Middletown, Ohio

* Reg.U.S.Pat.Off. Sales Representatives in Boston, Chicago, Cleveland, Detroit, New York, Philadelphia, Pittsburgh, St. Louis



Screw hand press

Squaring shears

Tinsmith by necessity!

Using a screw hand press . . .

. . . a pair of squaring shears . . .

. . . and other simple tools . . .

. . . the fishermen and canners of another day were ready to start canning, if they could find the proper raw materials.

Yes, they had to be tinsmiths, too.

This *was* the situation in the fishing industry. Canco overcame it.

Canco developed machines to make cans for tuna, salmon, mackerel, sardines, and many other kinds of fish . . .

. . . besides machines to close these cans up to 175 per minute.

Canco sent out expert servicemen to the fisheries themselves, ready to help Canco customers.

Indeed, Canco has played such an important role in the fishing industry as it is known today that we rightly feel ourselves an integral part of it.

The willingness to do new things . . . to pioneer . . . is part of Canco. Fishing is only one frontier of packaging where we have helped our customers.

CANCO

AMERICAN CAN COMPANY

New York • Chicago

San Francisco

WIRZ applauds the public's quick response to P & G's new Prell Tube

"Radiant beauty in the handy new Prell Tube" is making an irresistible appeal to women (and men!) all over America. WIRZ congratulates Procter & Gamble on the successful launching of its new Prell Shampoo in a completely adequate sales package . . . one that performs three important functions . . . a quality tube that protects, adds convenience, and increases the sales appeal of the product. WIRZ is proud to have cooperated with P & G's engineers in developing the design as well as in the production of the new Prell Tubes.

Our staff will welcome an opportunity to work with you on your packaging projects. Write or phone us.

ESTABLISHED 1836

A. H. WIRZ Inc.

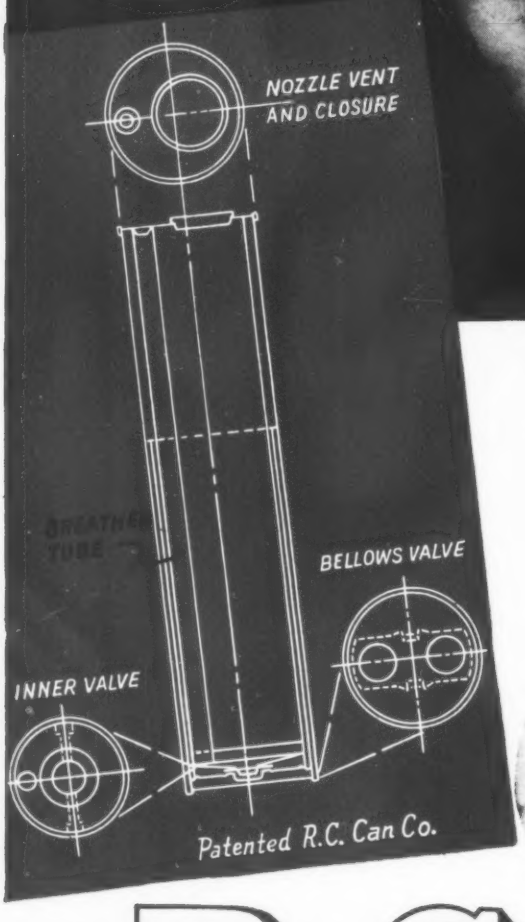
Fourth & Cole Sts. • CHESTER, PA.

New York 17, N. Y. 50 E. 42nd St. | Chicago 4, Ill. 80 E. Jackson Blvd. | Memphis 2, Tenn. Wurzburg Bros. | Havana, Cuba Roberto Ortiz Planos | A. G. Spilker, 1709 W. 8th St., Los Angeles 14, Calif. and Danville, Calif.

Export Division: . . 755 Drexel Building — Philadelphia 6, Pennsylvania

Collapsible Metal Tubes • Lacquer Linings • Wax Linings • Westite Closures • Soft Metal Tubing • Household Can Spouts • Applicator Pipes • Compression Molding

EFFORTLESS RAPID– BELLOWS ACTION
WHY
THERE ARE NO "BUGS" IN THIS BUG-KILLING CAN . . .
NO BINDING– EASY ACTION
SPRAYS UP OR DOWN IN ANY POSITION
NO WASTEFUL POWDER LEAKAGE OR "KICKBACK"
UNIFORM SPRAY –NO "BLASTS" OR "WHIFFS"
NO CLOGGING AIR AND POWDER EVENLY MIXED



PACKAGE ENGINEERING

by R. C.—runs the bugs out of packages and out of gardens, too!

The high standard of packaging features in the R. C. Spra-Can embodies special materials and construction for foolproof operation • Special moisture-resistant stock for free pumping action • Special spring-activated inner valve to retain powder and measure the air • "Breather" tube mixes air and powder and controls pressure • Countersunk discharge hole prevents spilling, maintains spray uniformity • Special feed construction—sprays up or down—sidewise • Tension bellows diaphragm withstands hard usage.

Supplied with closure top for refill—or with non-refillable solid top.

Put your packaging in the hands of R. C. Packaging Engineer

R·C· CAN COMPANY

Manufacturers: fibre cans, tubes, spools and cores

R.C. CAN CO. THE STAMP OF QUALITY ST. LOUIS, MO. ®

BRANCH FACTORIES: ARLINGTON, TEX.; RITTMAN, O.; KANSAS CITY, MO.

SALES OFFICES:

C. E. DOBSON, 819 Carondelet Bldg., New Orleans 12, La.
S. W. SCOTT, 608 McCall Bldg., Memphis 3, Tenn.
CAN SUPPLY CO., 1709 W. 8th St., Los Angeles, 14, Calif.
C. J. TAUGHER, 1628 W. Wisconsin, Milwaukee 3, Wis.
R. J. WATERS, 516 Fifth Ave., New York, N. Y.
EDWIN F. DELINE CO., 224 W. Alameda, Denver 9, Colo.
W. L. BENNETT, 126 S. Third St., Minneapolis 1, Minn.
L. C. MORRIS CO., 1125 Spring St., N.W., Atlanta, Ga.
H. K. GRINSTEAD, 633 S. Fifth St., Louisville, Ky.
ALLIED PAPER SPECIALTY SALES
P. O. Box 1082, Pittsburgh 30, Penna.

These attractive cellophane bags made by SHELLMAR are brilliantly printed with special cellophane inks produced by Bensing Bros. & Deeney

TWO OUTSTANDING INKS *FOR PRINTING CELLOPHANE*

Their names are Excellopake and Translustro. These inks were developed in the laboratories of Bensing Bros. & Deeney, America's leading producer of aniline inks, for printing on cellophane and cellulose acetate.

Here are the details. Excellopake is an *opaque*, 100% pigment ink that does not bleed on cellophane and is fast to light. This ink prints sharp and clean and is available in practically every color and hue.

Translustro is a *transparent* ink with clear and brilliant colors. As it is specially formulated, it dries quickly and is ideal for high-speed runs. You can get it in any color you specify.

If you print on cellophane, whether you are a converter or a packager, you owe it to your product to check the superiorities of these made-for-cellophane inks. Write for details and samples.

Distributors

Manton Brothers
Elizabeth Street, Toronto, Canada

A. M. Bojanower
2785 E. Slauson St., Los Angeles 11, Cal.

Export Division

McLaurin-Jones Co.
150 Nassau Street
New York 7, N. Y.

Associated Manufacturing Plants

Bensing Brothers & Deeney, Inc., in Mass.
81 Albion Street, Wakefield, Mass.

Bensing Brothers & Deeney, Inc. in Ill.
2358 N. Seeley Avenue, Chicago 47, Ill.

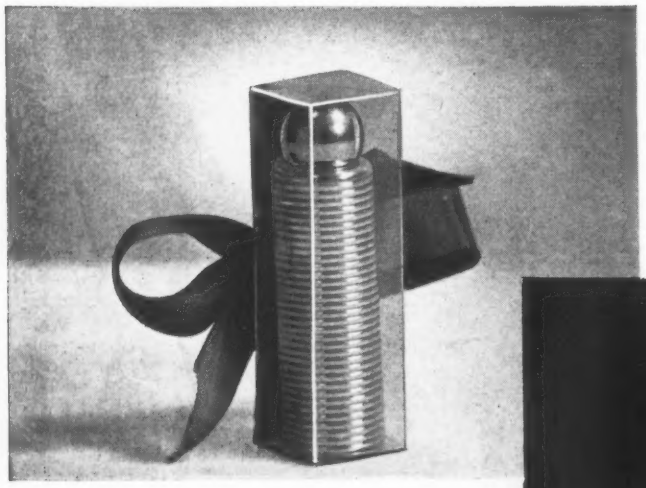
Largest Manufacturers of Aniline Ink in U. S. A.

Bensing Bros. & Deeney

HOME OFFICE AND PLANT 401 N. BROAD STREET, PHILADELPHIA 8, PA.

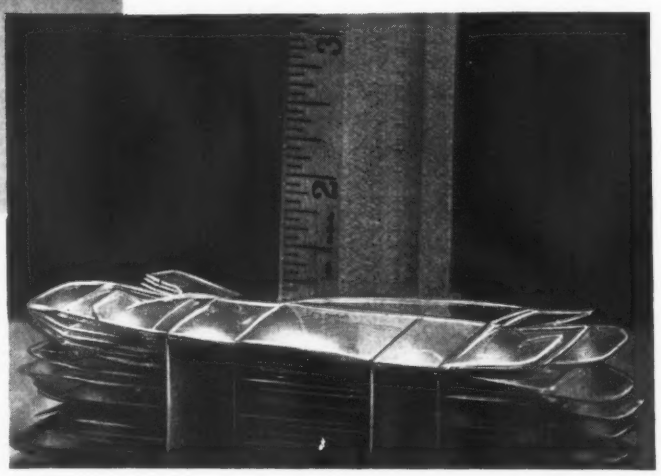
Harriet Hubbard Ayer

chooses the new **Plastafol*** **Carton**



Here is ONE "Set up to sell"

Smart, sparkling Plastafol Cartons now heighten the eye-appeal of Harriet Hubbard Ayer's new Yu perfume flacon.



Here are 50 folded flat!

Yes, 50 of these amazing rigid cartons fold to make a pile little more than one inch high! Savings in freight . . . storage!

Put your product on parade with ***Plastafol,*** the only all-transparent, rigid carton that folds flat!

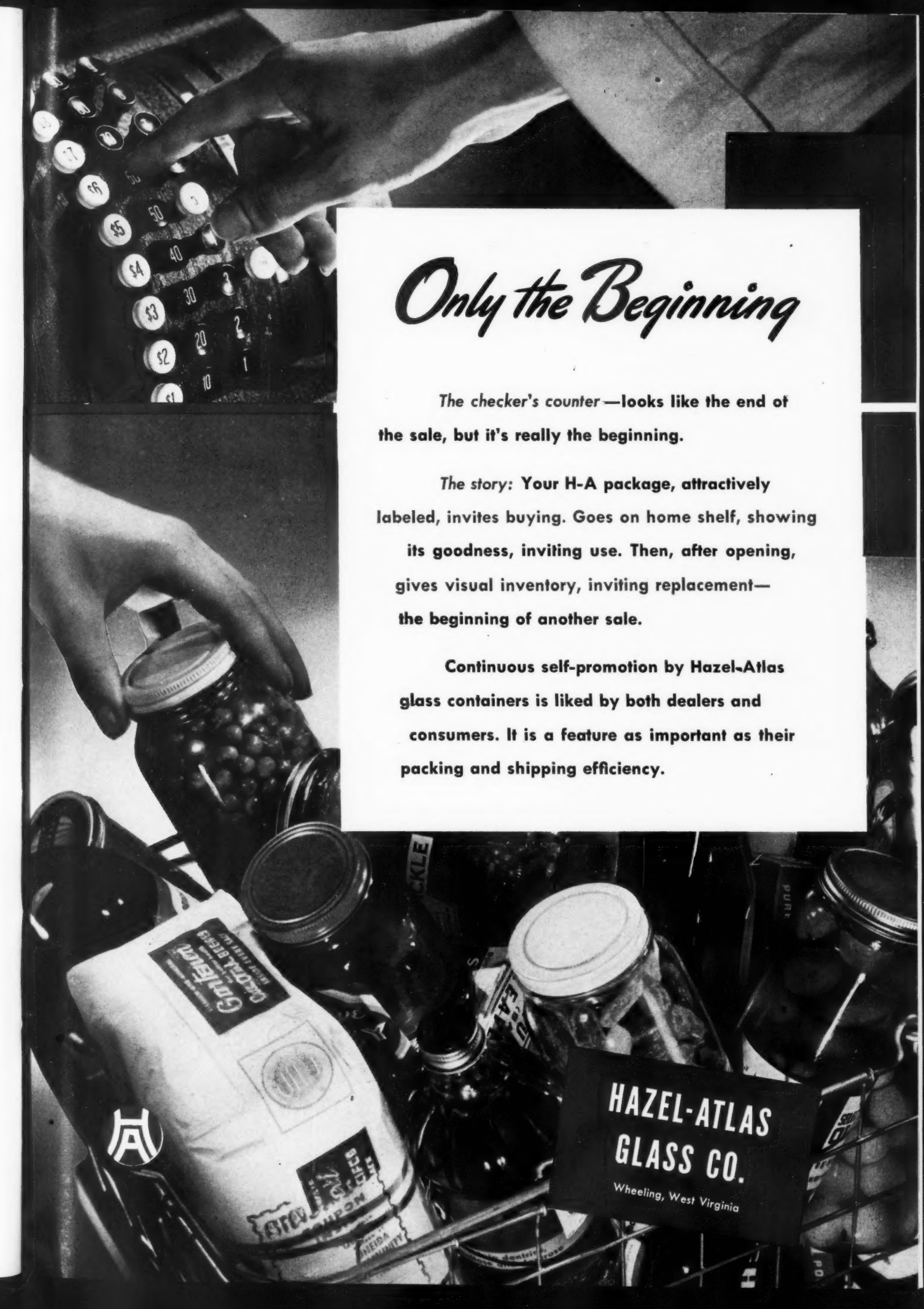
- Made of the finest window-clear plastic
- Low in cost—surprisingly so—because mass-produced by a patented process
- Saves freight and storage charges when folded flat
- Available in large runs—tuck-end or glue-end
- New, yet already *proved by use* in packaging such varied products as perfume atomizers and industrial drills

Write or phone for information, technical advice, ideas, prices!

TROTH • BRIGHT • PAGE

PAOLI, PENNSYLVANIA Phone: Paoli 1846

*Trademark. The Plastafol carton is protected by present and pending patents.



Only the Beginning

The checker's counter—**looks like the end of the sale, but it's really the beginning.**

The story: **Your H-A package, attractively labeled, invites buying. Goes on home shelf, showing its goodness, inviting use. Then, after opening, gives visual inventory, inviting replacement—the beginning of another sale.**

Continuous self-promotion by Hazel-Atlas glass containers is liked by both dealers and consumers. It is a feature as important as their packing and shipping efficiency.

Cosmetic RO Seal

keeps the quality in quality products

Women reach for the product sealed with the graceful Alseco Cosmetic RO Seal. Made of corrosion-resistant Alcoa Aluminum, it gives a *quality* look to quality products. The Cosmetic RO Seal is a good performer, too . . . easy to apply (the threads are *rolled-on*) . . . easy to remove (every seal is tailor-made for perfect fit).

Find out more about the Alseco Cosmetic RO, and interesting details about other effective aluminum seals. Write for new informative catalog, ALSECO SEALS.

ALUMINUM SEAL COMPANY, INC. • RICHMOND, INDIANA • SUBSIDIARY OF ALUMINUM COMPANY OF AMERICA

Fine Merchandise Deserves . . . The Finest Merchandising!

Here indeed is a merchandise displayer worthy of the name! Skillfully designed to speed up sales of an entire taste-tempting line of fine candy, it takes utmost advantage of the inherent properties of BAKELITE Styrene Plastics.

It has eye-appealing color, selected from the almost unlimited range of BAKELITE Styrene colored and transparent materials.

It is quickly injection molded in one piece and in one operation, adding production economy to the economy of the material itself. Its hard, lustrous finish is smooth and easy to keep clean. It is light in weight, yet sturdy.

The inherent properties of BAKELITE Styrene Plastics offer these and a host of other advantages in the production and use not only of displayers, but of packages and closures. Bakelite engineers will be glad to work with you and your molder in selecting the right BAKELITE Styrene Plastics and using them to best advantage for the packaging or merchandising of your products. Please feel free to write to us, care of Department 90.

Molder: Plastics Mfg. Co., Dallas, Texas

TRADE-MARKS

BAKELITE

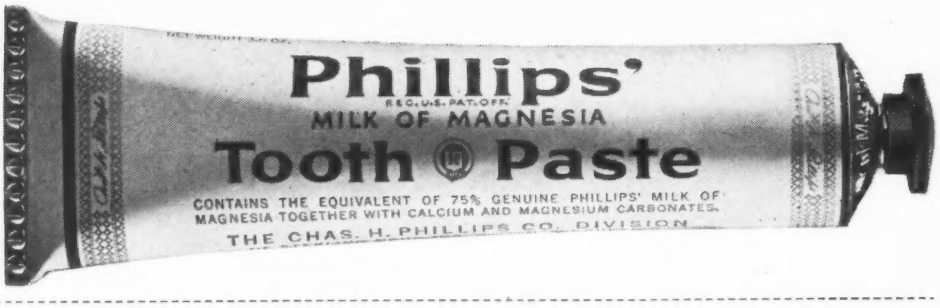
Styrene

PLASTICS

BAKELITE CORPORATION, *Unit of Union Carbide and Carbon Corporation* UCC 30 East 42nd Street, New York 17, N.Y.

LEAD AND TIN TUBES

Most widely used, versatile. Can be wax-coated or tin laminated. Sun Tube makes a variety of shapes and sizes.


Phillips'
MILK OF MAGNESIA
Tooth Paste
CONTAINS THE EQUIVALENT OF 75% GENUINE PHILLIPS' MILK OF MAGNESIA TOGETHER WITH CALCIUM AND MAGNESIUM CARBONATES.
THE CHAS. H. PHILLIPS CO. DIVISION

ALUMINUM TUBES

Now better looking than ever with Sun Tube's exclusive new "satin finish" shoulders—no ridges or die marks. Many shapes and sizes.

UNITAINERS

For a single dose or application, powder or liquid. New break-off pin closure for liquids.

WHICH *of these tubes* IS BEST FOR YOUR PRODUCT?

Some products do best in lead and tin; others in aluminum.

Some do fine in direct contact with metal; others need a protective coating inside.

Sun Tube will gladly give you the information you need to choose the tube that's best for *your* product. No obligation. It's part of regular Sun Tube service to manufacturers—a complete service from designing to capping.

No matter what type tube you choose, Sun Tube will make it *right*. Dependably uniform. Beautifully designed. That's what Sun Tube has been doing for over 20 years!

For information without obligation, please write our representative nearest you, or to our home office: 181 Long Avenue, Hillside, N. J.

SUN TUBE CORPORATION

181 Long Avenue, Hillside, N. J.

Chicago 3, Ill. . . . *James L. Coffield, Jr., 105 West Adams St.*
Detroit 2, Mich. . . . *Joseph Giroux, 2970 West Grand Blvd.*
St. Louis 1, Mo. . . . . . *M. P. Yates, Arcade Building*
St. Paul 1, Minn. . . . . *Alexander Seymour, 1411 Pioneer Building*
Cincinnati 8, Ohio . . . . . *Ralph H. Auch, 3349 Custer Road*

For Box Coverings
Gift Wraps
Display Purposes
Special Linings
Novelties

Here's a sample of Nashua's new line of baby papers that will "ring a bell" with any mother—and *your cash register!* Bet on it as a sales winner for box coverings, gift wraps, for trimming windows and counters, for linings and other eye-appealing uses that dress up products, packages and premises.

The sample is Grade No. 23154. Also available in yellow (Grade No. 23150), green (Grade No. 23152), and light blue (Grade No. 23151). Stocked in 26″ rolls unembossed four reams per roll.

The paper may be embossed in a wide, colorful assortment of Nashua embossing patterns, and put up two reams to the roll. Write for samples.

NASHUA
MAKES PAPER MAKE MONEY FOR YOU

NASHUA BOX STAY and BOX PAPER DISTRIBUTORS

Bradner Smith & Company, Chicago
De Pear Paper Company, Chicago
Handy Paper Company, Rochester
Holyoke Coated & Printed Paper Co., Inc., New York
Lachman Novasel Paper Corp, New York
Matthias Paper Corporation, Philadelphia
The Queen City Paper Company, Cincinnati
Frank Schulman Paper Corporation, New York
The K. E. Tozier Company, Boston
West Coast Paper Company, Seattle

NASHUA BRANCH OFFICES

Baltimore • Chicago • Detroit • Los Angeles • New York • Philadelphia • Pittsburgh • San Francisco

NASHUA GUMMED AND COATED PAPER COMPANY · NASHUA, NEW HAMPSHIRE

IS YOUR PRODUCT LISTED HERE?

(or if it is even remotely related)

ELECTRIC RANGES	GAS RANGES
DEEPFREEZE UNITS	REFRIGERATORS
WATER HEATERS	OFFICE DESKS
STEEL FILING CABINETS	BROOMS
WALLBOARD	MATTRESSES

Bemis' sturdy kraft paper covers get these and many other products to market with easy handling, low shipping charges, and ample protection.

Bemis covers are slipped over the product in a jiffy to seal out dust and dirt. With this scuff-resistant cover, the product can be stored for months and be ready to go onto the display floor sparkling fresh at any time.

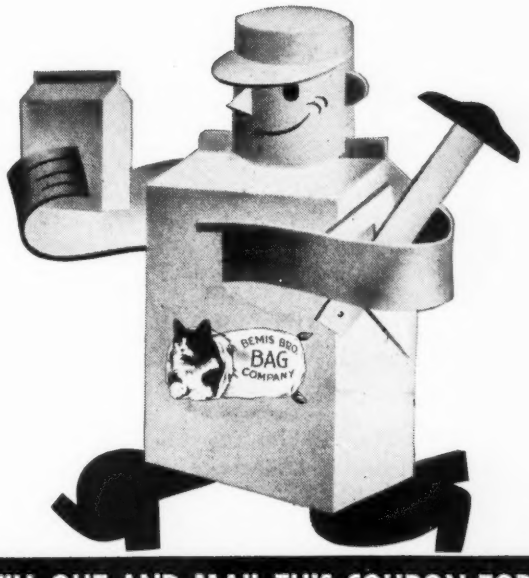
You can probably save substantial sums on shipping charges alone by talking with the Bemis Paper Bag Specialty Man.

BEMIS BRO. BAG CO.

BEMIS BRO. BAG COMPANY

PAPER SPECIALTY PLANT • 1056 South Vandeventer, St. Louis, Mo.

Then...see how BEMIS can serve you with Good Packaging at Low Cost



FILL OUT AND MAIL THIS COUPON TODAY

Bemis Bro. Bag Company, Paper Specialty Plant
1070 S. Vandeventer, St. Louis 10, Missouri

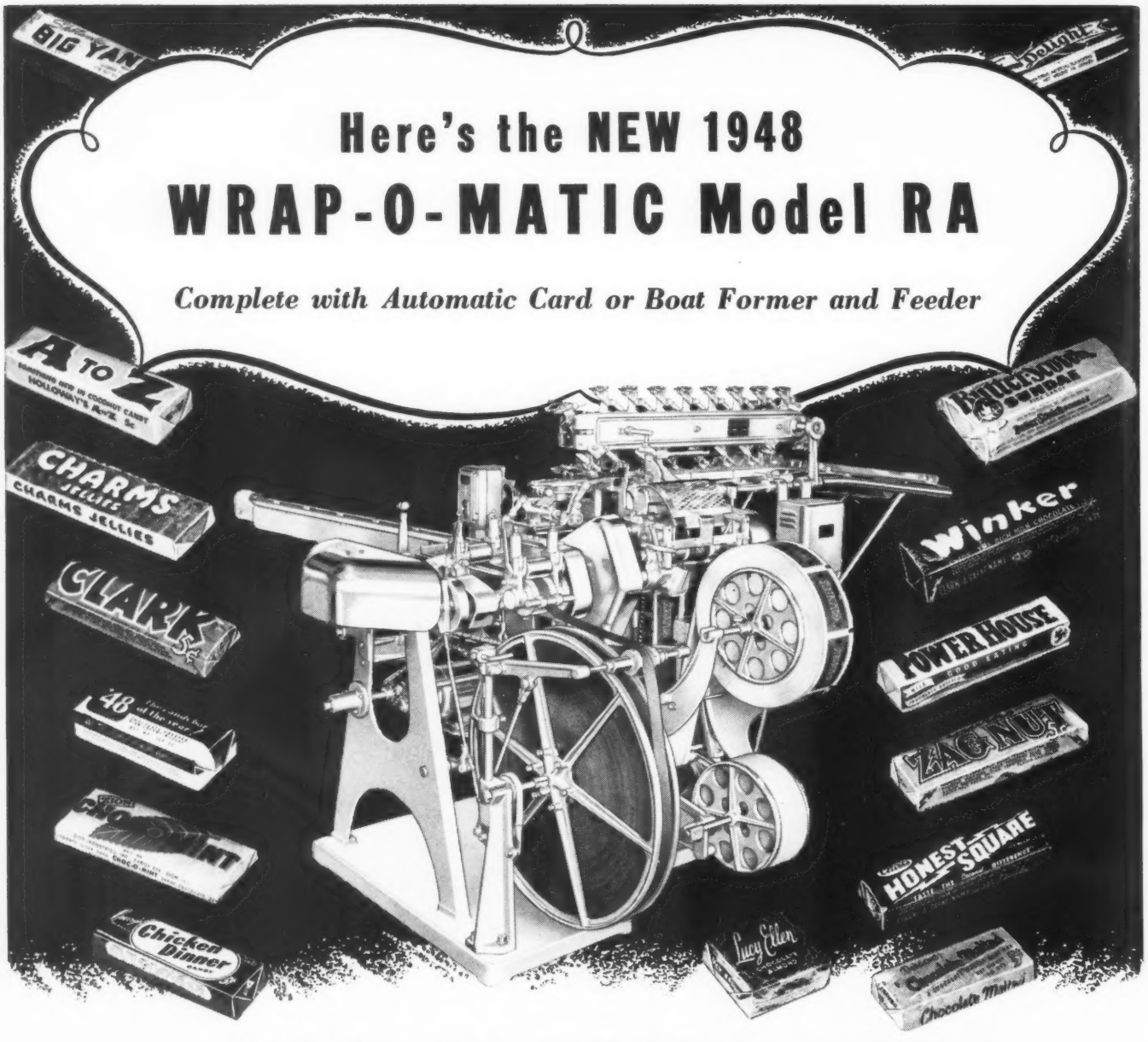
How can Bemis help cut packaging costs for our products? We manufacture_____

*Name*_____

*Firm Name*_____

*Street*_____

*City*_____ *State*_____



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The *New* 1948 Wrap-O-Matic Model RA is another big advancement in the automatic wrapping of fragile, regular or irregular shaped candy bars. The automatic card former and feeder is now an integral part of the machine which makes for a more compact, more practical unit.

High speed, economical wrapping of neat, trim packages is an outstanding feature of Wrap-O-Matic . . . up to 120 units per minute with savings as high as 75% in wrapping labor and 35% in wrapping material. With a reasonable volume of production Wrap-O-Matics pay for themselves in an unbelievably short period of time.

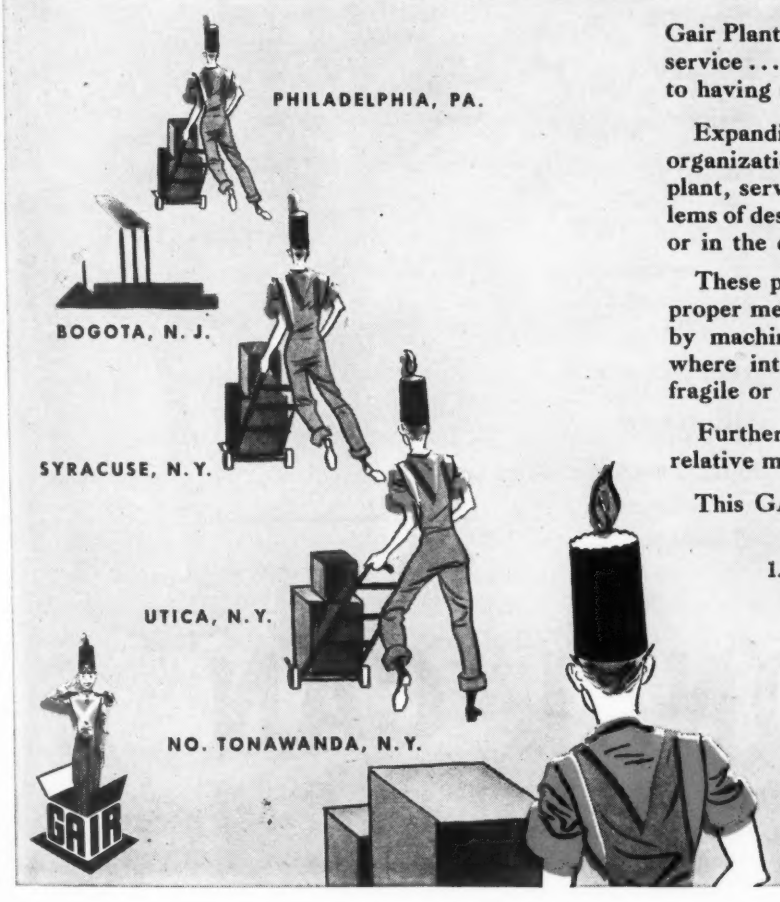
Take advantage of Wrap-O-Matic wrapping . . . reduce your wrapping costs . . . give your product that "Dressed to Sell" appearance. Send samples of your products and ask for illustrated literature.

LYNCH CORPORATION

Package Machinery Division TOLEDO 1, OHIO U.S.A.

STRATEGIC PLANT LOCATIONS

make ROBERT GAIR your next-door neighbor



Gair Plants are strategically located to render maximum service . . . a CONTAINER SERVICE that is almost equivalent to having a GAIR PLANT in "YOUR OWN BACK YARD."

Expanding beyond shipping facilities, the ROBERT GAIR organization provides technical cooperation. At each plant, service engineers are available to help solve problems of designing or redesigning your present containers, or in the creation of new containers for new products.

These packaging engineers are prepared to advise on proper methods of sealing containers, either by hand or by machine. This technical information is invaluable where interior packing has been designed to protect fragile or valuable merchandise.

Furthermore, these GAIR REPRESENTATIVES know the relative merits of corrugated, solid fibre, jute and Kraft.

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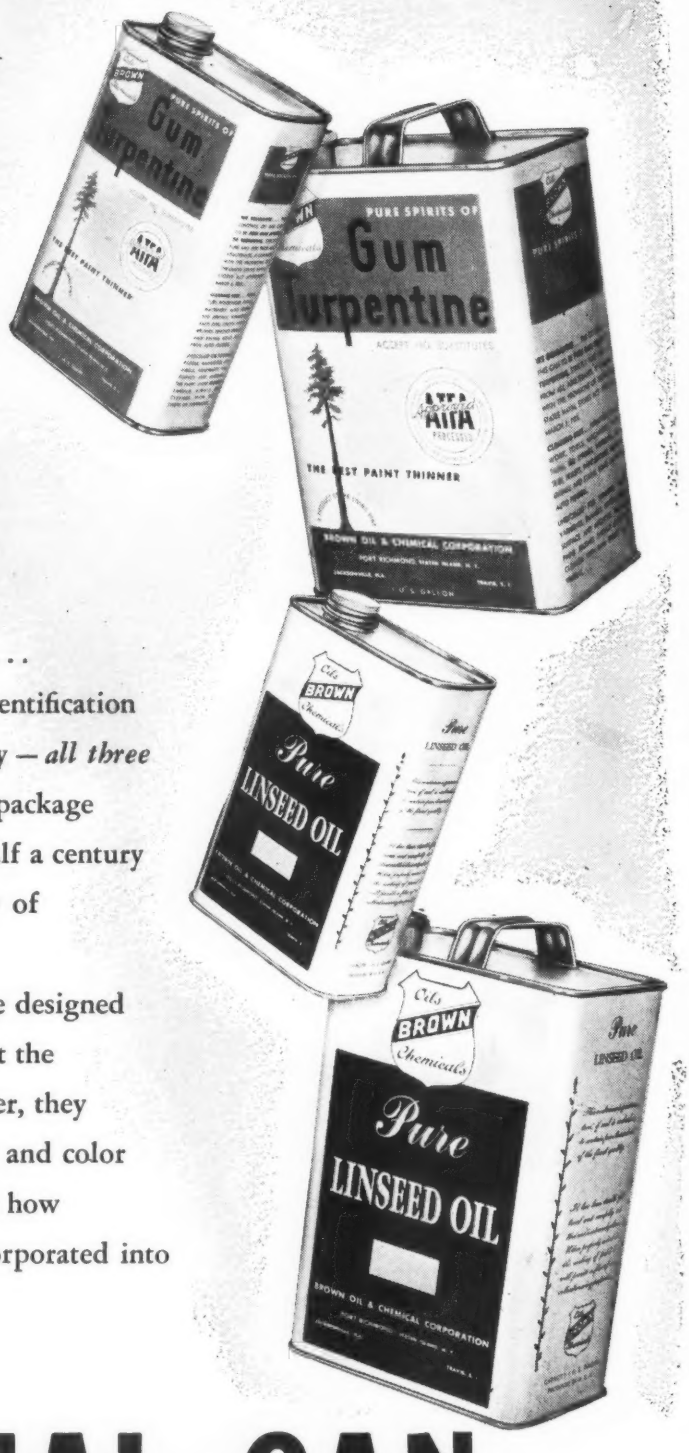
NATIONAL CAN CONTAINERS GIVE YOU

ALL THREE SALES FACTORS . . .

Instant Eye-Appeal

Permanent Lithographed Finish

Full Product Protection



Compelling eye-appeal for quick sales . . . permanent lithographed label for lasting product identification . . . sturdy construction to safeguard product quality — *all three* of these important sales factors are yours when you package your product in National Can containers. Nearly half a century of experience in manufacturing the widest variety of lithographed metal containers is at your command.

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CORPORATION

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"This product has the fastest take-off of any type of produce we have ever offered." So said Mr. Glenn Lewis, General Manager of the Lewis A. Terven Company, Salinas, Calif., about their fresh carrots, packaged in Dobeckmun-processed cellophane bags.

We agree that product quality brings fast reactions from buyers. But that quality is *visible* through transparent film, made impellingly attractive by Dobeckmun multi-color printing. And, durable, moisture-proof construction *maintains* the quality.

If you want eager hands reaching for your products, ask us for suggestions. We process cellophane or other films and metal foils, alone or in laminations, to produce bags, packages, liners or overwraps that combine product protection with irresistible sales impact.

If you haven't seen our new "Standard Size" bag story, write at once for samples and cost-saving details. *The Dobeckmun Company, Cleveland 1, Ohio. West Coast Division, Berkeley 2, California.*

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WITH DOUBLE SEALED SEAMS

When products are packed in ROTO-made bags they get maximum protection because the ROTO Bag Machine double-seals every bag seam—once with heat, once with high-strength adhesive. This special seam construction safeguards against the costly dangers of moisture spoilage, product loss through sifting, and bag failure due to split seams.

The ROTO makes these extra-strength bags of almost any heat-sealable material: cellophane, diaphane, aluminum foil and laminated films. Moreover, it can make them in any of four basic types: flat, gusset, single-wall or duplex.

Built for heavy-duty, trouble-free performance, the ROTO has the simplicity of operation desired by packers at speeds of interest to converters. Because it is constructed with precision craftsmanship of the finest materials obtainable, the ROTO Bag Machine is unconditionally guaranteed for performance and each of its parts is warranted against defect.

Write for detailed information, prices and delivery dates.

ROTO BAG MACHINE CORP.

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Ooops... Sorry!

Will an unscheduled jolt to your product in transit bring you another damage claim—or result in loss of consumer good will? You can minimize these worries by safeguarding your product in tough Gaylord Boxes—*designed for safe delivery* • • Call on the nearest Gaylord Office for competent help on your packaging problems.

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Here is a "PACKAGED" electronic heat-sealing unit, only 14" wide, 23" deep and 28" high, capable of making either a single seal 12" long x $\frac{1}{8}$" wide or two separate seals each 4" long x $\frac{1}{8}$" wide of either rigid or flexible plastic sheeting materials.

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Traver experience in all phases of flexible packaging means extra protection for your product on its vital trip to market. Colorfully printed cellophane and glassine bags and overwraps, durable plastic films, brilliant foil, strong crush resistant Loxtite partitions. Each plays its individual, important part in Traver designed packages. On your request, we will redesign your present package to meet the higher requirements of today's competitive market or work with you in developing sales producing packages for new products you may have in mind.

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Warnercraft packages are the kind you'd expect to pay more for . . . but don't.
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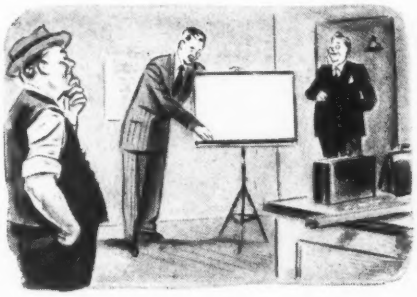
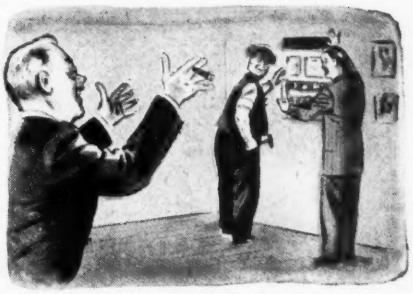
"We've got the best shipping department in town—now!"

1. "But up until about two months ago we had *plenty* of troubles. Customers were griping about cartons arriving busted open, and I was really on the spot! Then one day our packaging supplier showed up with a sound slide film, and the boss had me get the boys together for a private showing —"



2. "Well, sir — that picture gave us the whole story on how to seal cartons RIGHT with gummed tape—straight to the point, with no high-pressure stuff. Things we'd never thought of teaching the boys before. After the show was over — "

3. "I had quite a talk with the fellow. He was sincerely interested in helping us do a *better job*, and what impressed me was that he didn't drag in any sales talk. He's doing this job wherever he can help shippers solve their packaging problems. Before he went —"



4. "He left us a big wall chart that shows exactly how to do the job right. Some of the boys aren't too strong in the 'memory department', so we put it up where they could see it *all the time*. And it's proved to be a constant reminder that *really works!*"

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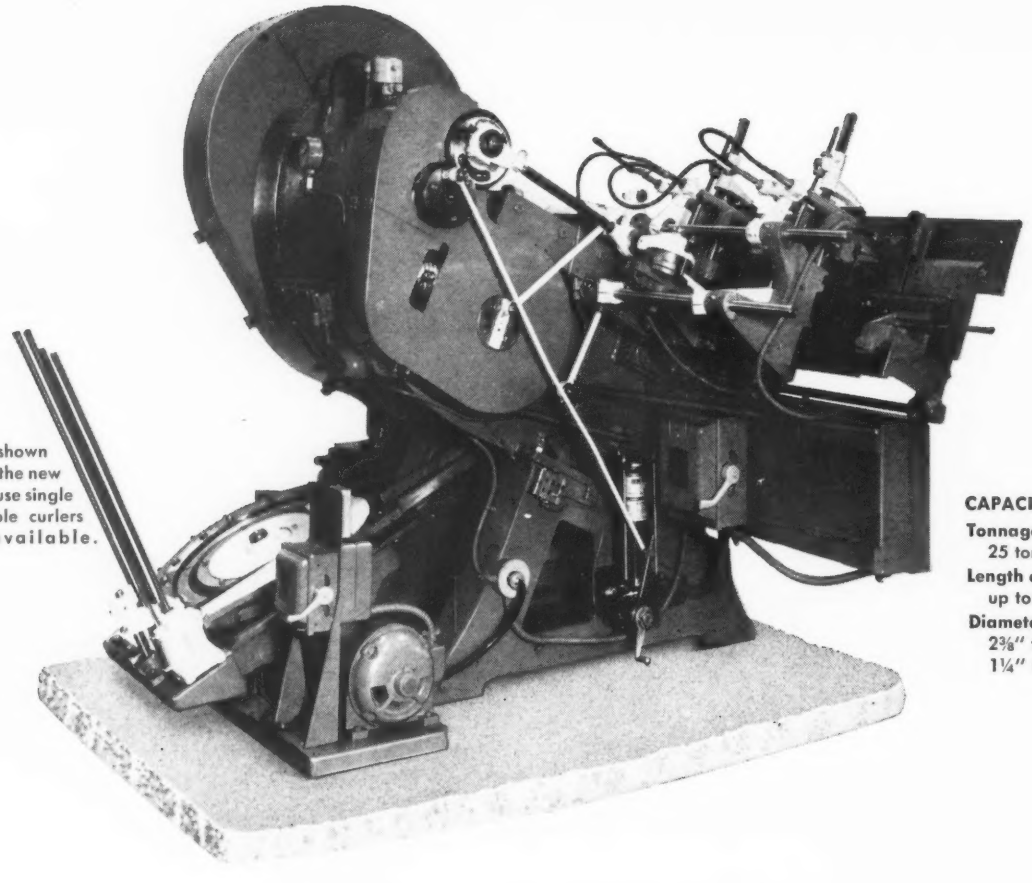


The press as shown is fitted with the new Hamilton-Kruse single curler. Double curlers are also available.

CAPACITY

Tonnage rating— 25 tons.

Length of strip— up to 36 inches.

Diameter of cut edge— 2⅜" to 7¾"—single die, 1¼" to 4"—double die.

New high-speed strip feed press

This is the automatic strip feed press exhibited by Lima-Hamilton at the Canners Show. It is designed for medium and high-speed production.

The press is of 25 tons capacity and has a stress-relieved welded steel frame with a tonnage rating approximately double the capacity of the press. This extra rigidity of the frame, plus the long slide and gibs, greatly prolongs die life.

A feature of particular interest to all press users is the clutch and its related safety devices. The clutch is of the friction type, of exceptionally rugged construction. It is automatically disengaged upon operation of any of the safeties — including the electric stops for doubles or jams in the feed, for jams in scrap ejection rolls and other important points. The clutch is equipped with an electric timer that assures stopping the slide at the top of the stroke. The over-size brake is located on the same side of the press as clutch and flywheel, eliminating undue stress on the shaft.

A 5-horsepower motor is mounted on the base of the press. Lubrication is from one central point. The press is available for either single or double dies, or multiple die work with special slides, and is in every respect a heavy-duty precision product.

* * *

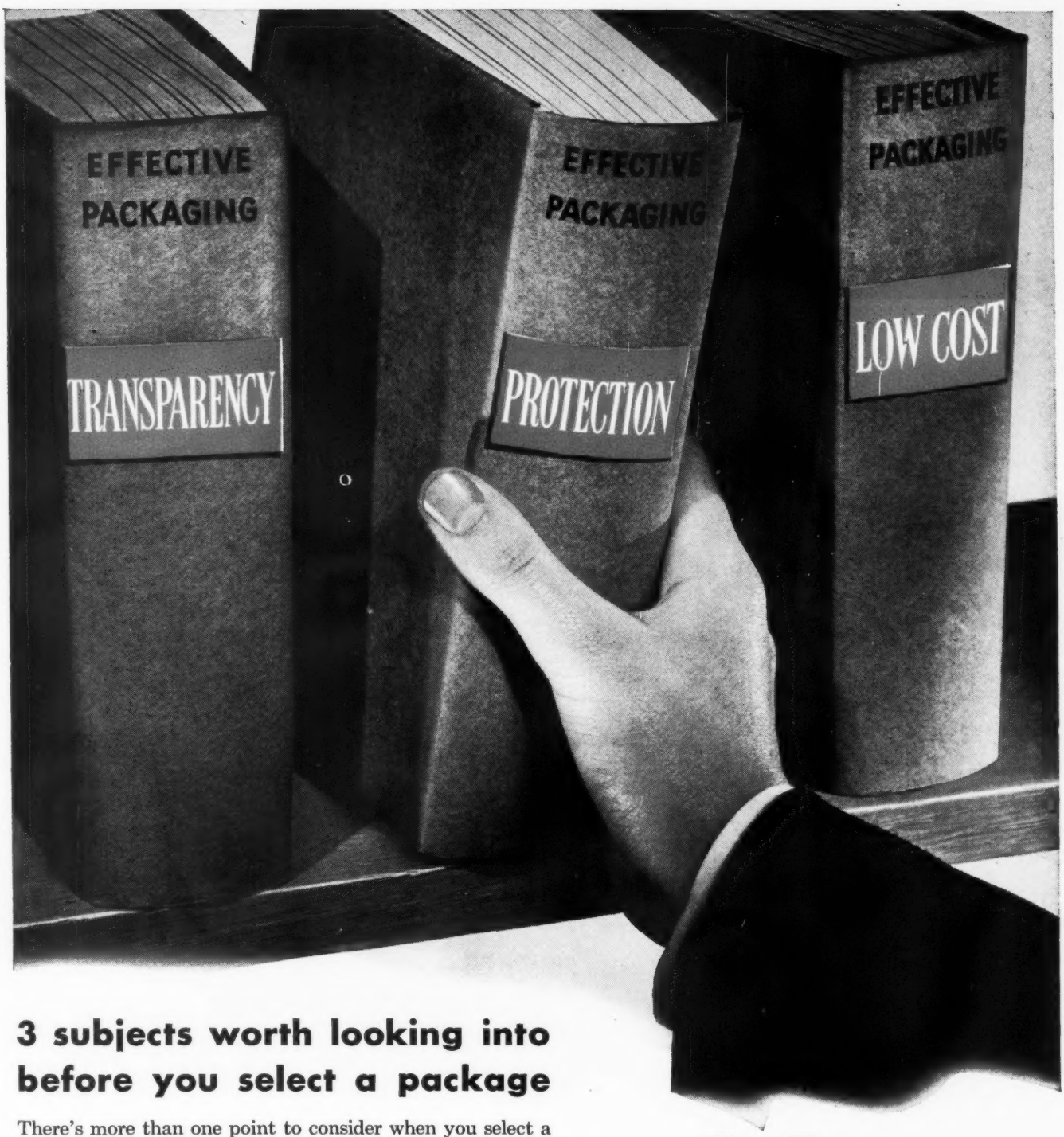
For complete information and specifications write to Roland H. Johnson, Sales Manager, Can Machinery Department, Lima-Hamilton Corporation, 60 East 42nd Street, New York 17, New York.

Chicago Sales Office: 400 West Madison Street, Daily News Building, Chicago, Illinois.

DIVISIONS: *Hamilton, Ohio*—Hooven, Owens, Rentschler Co.; Niles Tool Works Co. *Lima, Ohio* — Lima Locomotive Works Division; Lima Shovel and Crane Division.

LIMA HAMILTON CORPORATION

PRINCIPAL PRODUCTS: Hamilton-Kruse automatic can-making machinery; Hamilton heavy metal stamping presses; Niles heavy machine tools; Hamilton diesel and steam engines; Special heavy machinery; Heavy iron castings; Weldments; Locomotives; Cranes and shovels.



3 subjects worth looking into before you select a package

There's more than one point to consider when you select a packaging material.

Transparency—Leading merchandising authorities agree there is an increasing need for a selling package in this era of self-service and impulse buying. *Transparent* Du Pont Cellophane enables you to get maximum value from your most powerful selling force—your product.

Protection—In addition to making your product its own best salesman, Cellophane protects original product quality. There are more than 50 varieties of Du Pont transparent films—chemically tailored to meet the protective requirements of a wide variety of products.

Low Cost—Because you get transparent protection *at lowest cost*, Du Pont Cellophane also helps solve your problem of economy. Our converters and ourselves will be glad to assist you in developing more effective packaging.

E. I. du Pont de Nemours & Co. (Inc.), Cellophane Division, Wilmington 98, Delaware.

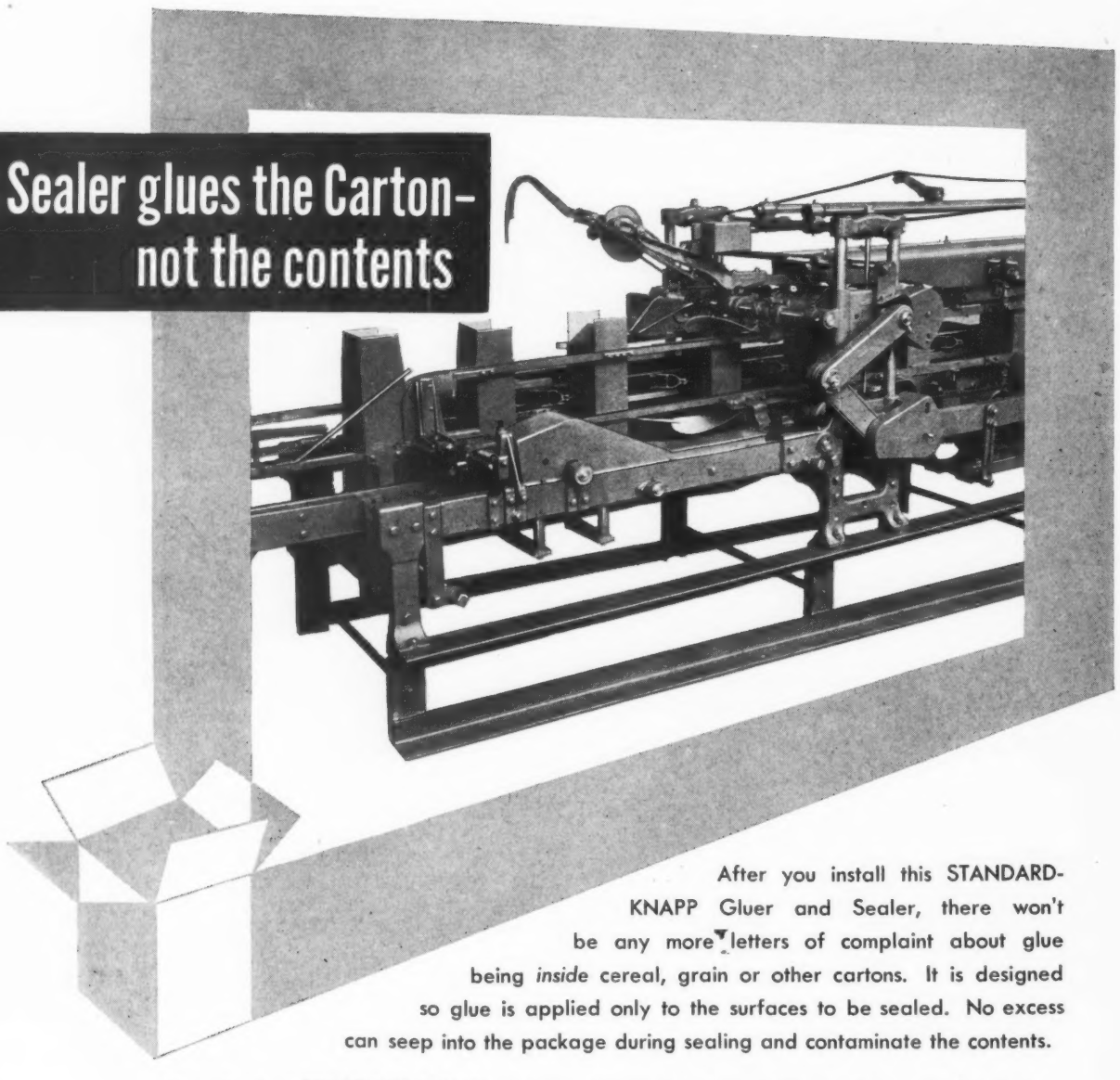
DuPont Cellophane

Shows what it protects—protects what it shows ...at low cost!

DU PONT

BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY

This Sealer glues the Carton—not the contents



After you install this STANDARD-KNAPP Gluer and Sealer, there won't be any more letters of complaint about glue being *inside* cereal, grain or other cartons. It is designed so glue is applied only to the surfaces to be sealed. No excess can seep into the package during sealing and contaminate the contents.

Like all other STANDARD-KNAPP equipment—can labelers, bottle packers, case packers—the Standard-Knapp Gluer and Sealer can be easily connected to your present conveyor system. Its heavy-duty construction assures dependable, uninterrupted service with a minimum of maintenance. All parts are accessible for easy cleaning.

Our packaging engineers will be glad to show you how the STANDARD-KNAPP Gluer and Sealer and other STANDARD-KNAPP equipment can add to the economy and efficiency of your plant operation.

Standard-Knapp Corporation

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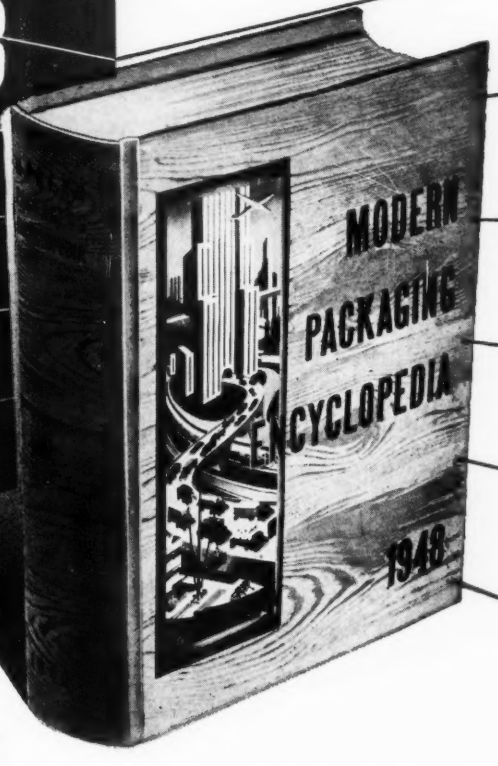

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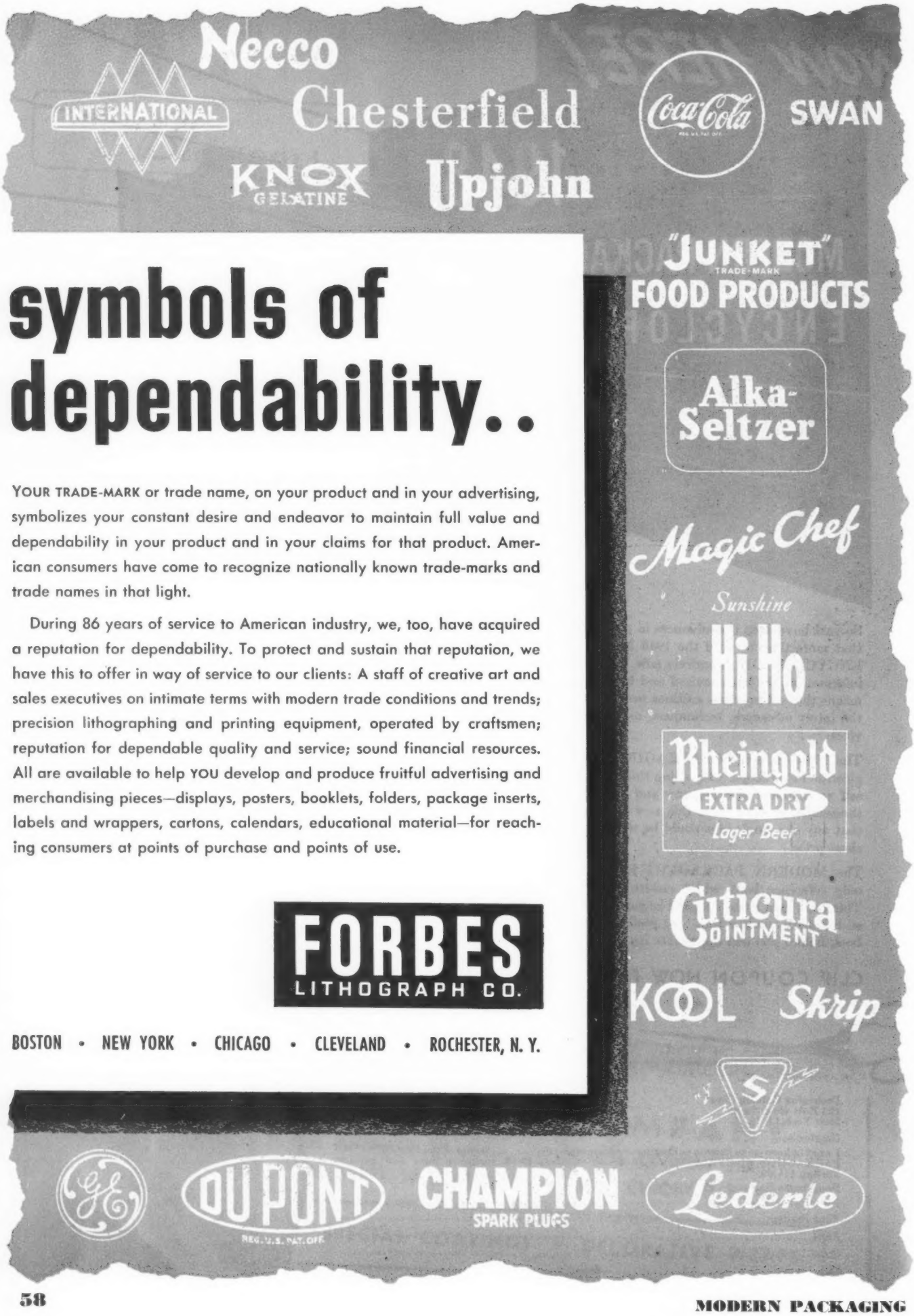

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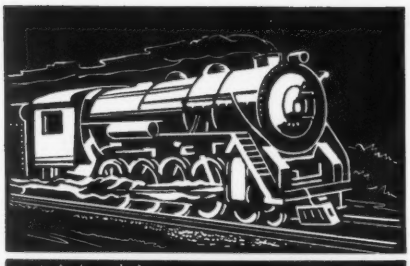
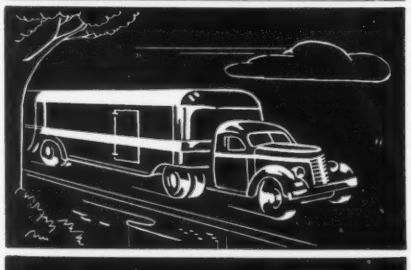
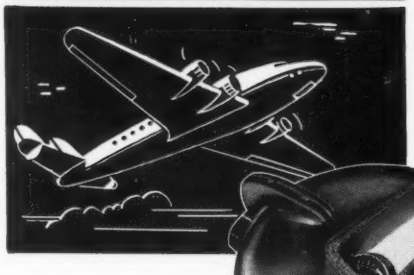




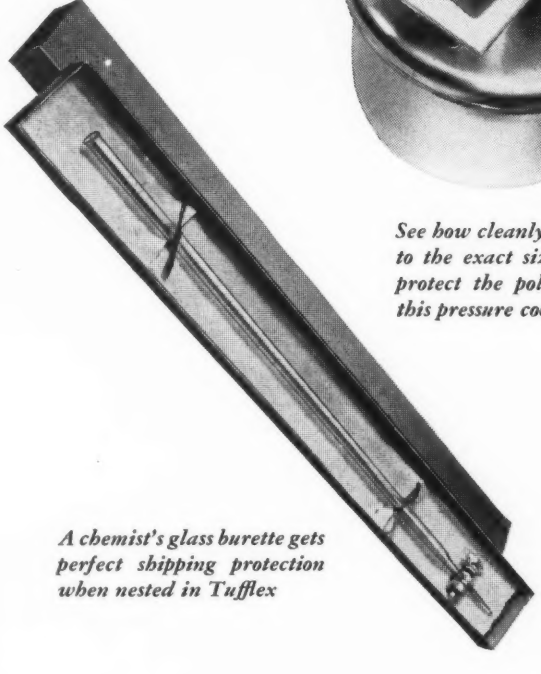


Cut-to-size Tufflex pieces are placed around this radio to protect it from scratches in transit

See how cleanly Tufflex cuts to the exact size needed to protect the polished top of this pressure cooker

For a Safer Journey

. . . PROTECT IT WITH TUFFLEX!



A chemist's glass burette gets perfect shipping protection when nested in Tufflex

No matter what size or shape articles you ship—they'll travel more safely when protected with Tufflex! This fleecy, yet tough, felted wood fiber blanket has qualities found in no other protective padding. Even under heavy impact blows, it springs back to its original shape. It won't shred or pull apart under tough handling.

Tufflex is non-abrasive and will not harm the finest finishes. It is easily cut to any size and it's available in rolls or sheets of various thicknesses and widths—either with or without kraft paper liners. Get all the facts about this amazing protective padding—mail the coupon.

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City.....*State*.....

PACKED IN LITHOGRAPHED METAL CANS *by* HEEKIN

THERE is no romancing in this ad. We want you to know that Heekin welcomes inquiries—large or small—from anyone planning to pack their products in lithographed or plain metal cans—and everyone who now uses cans in which to market their products. Heekin metal lithography will equal any other reproduction of color or design on metal cans . . . maybe improve it. Even if we are busy with old customers we like new ones to ask us to talk things over.

THE HEEKIN CAN COMPANY, CINCINNATI 2, OHIO

MANUFACTURER OF LITHOGRAPHED CANS SINCE 190

All right Buddy...if you want to SEAL IT RIGHT use RED STREAK tape—

IT PAYS TO "SEAL IT RIGHT WITH GUMMED TAPE"
IT'S EASY—IF YOU FOLLOW THESE SIMPLE RULES:
RED STREAK
SEALING TAPE
WHAT EVERY SHIPPER SHOULD KNOW

Red Streak Tape is the RIGHT tape for correct sealing. It's just good kraft, good glue and plenty of it made for the one purpose of sealing your packages easily, securely. Now with proper "Seal It Right" instructions and by using Red Streak Tapes you can be certain your cartons are sealed RIGHT.

Here are the things that will help you!

Large 25" x 38" wall hanger
Hangs on the wall in your shipping room, always in plain view, tells you how step by step to seal your packages RIGHT. Helps you save shipping losses.

Slide-Sound Film
—which your paper merchant has available shows the approval technique for gummed tape usage. It is available for showing without cost to all of your shipping department personnel.

Pocket Size Manual
Tells "What every shipper should know" and gives information on how to seal your product RIGHT for safe shipment.

Get in touch with your paper jobber!

The Brown-Bridge Mills, Inc., Troy, Ohio

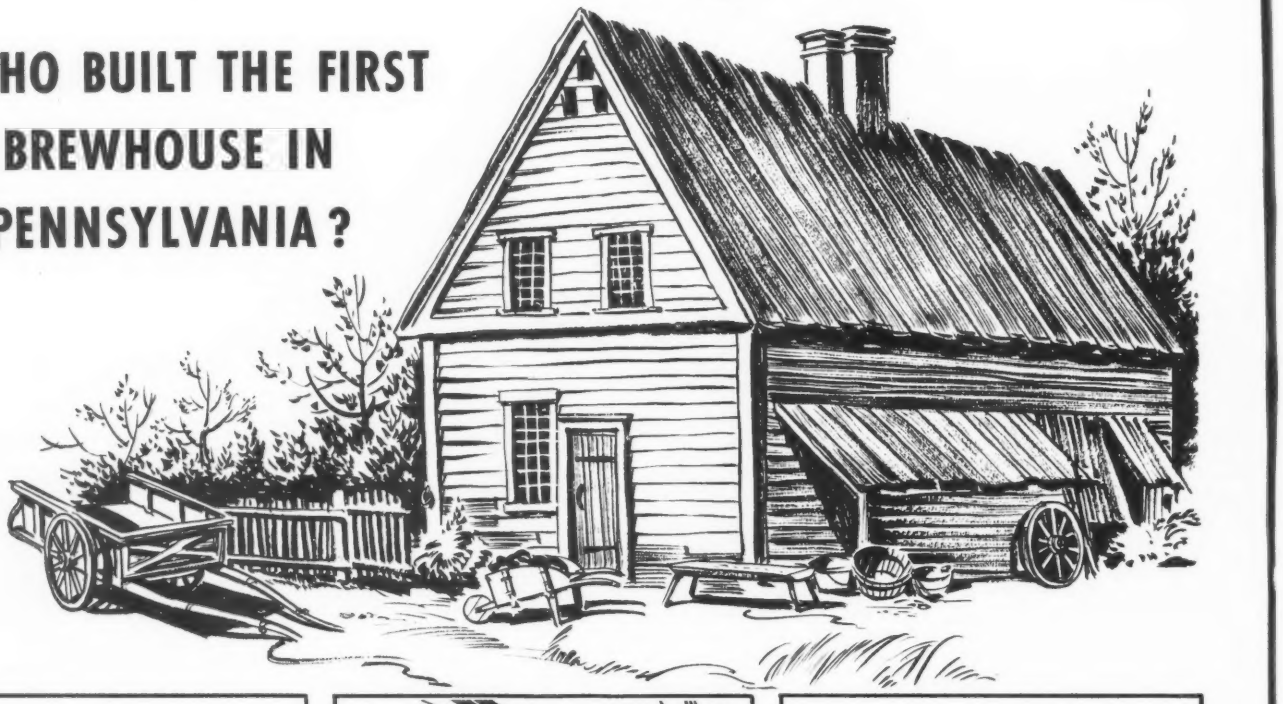
NEW YORK 389 Fifth Ave. | CHICAGO 608 S. Dearborn | ST. LOUIS 4053 Lindell Blvd. | SEATTLE 2416 First St. | SAN FRANCISCO 420 Market St.

THE GUMMED INDUSTRIES ASSOCIATION

SEAL IT RIGHT WITH GUMMED TAPE

What's the BEER *FACT?*

1. WHO BUILT THE FIRST BREWHOUSE IN PENNSYLVANIA?



2. *HOW DID A BREWERY GIVE BIRTH TO AIR CONDITIONING?*

3. *WHAT DID THE EXPRESSION "MIND YOUR P'S AND Q'S" HAVE TO DO WITH BEER?*

4. *HOW DID PASTEUR HELP BREWERS?*

The birth of air conditioning in a brewery (which we pointed out above) is typical of the steps taken to make beer the pure, wholesome beverage it is today. The introduction of the can, too, assured buyers of getting beer in prime quality. There can be no doubt that developments such as these helped account for the record sale of beer during recent years.

. . . . . *ANSWERS* . . . . . .

1. William Penn, founder of Keystone State and great believer in temperance, erected Pennsylvania's first known brewery in 1683.

2. It was in a brewery that America's first air conditioning plan was installed. The brewer, Robert Portner, is claimed to have had the first air conditioning patent.

3. It is believed that English tavernkeepers used to keep tabs on customers' drinks by jotting down "P's" for pints and "Q's" for quarts.

4. Louis Pasteur solved the mystery of fermentation — showed how controlling yeast prevented beer from souring.

CONTINENTAL CAN COMPANY

100 East 42nd Street New York 17, New York

The Sucker Gets a Break

Production of vacuum cleaners in 1947 was 3,704,000 units . . . as compared with 1,397,000 in 1939. The industry is convinced that the appetite of Mrs. America for this much-improved household "must" is by no means sated . . . has high hopes of making and selling millions more in 1948.

It is important that these cleaners—upright and tank types—be delivered to the customer in all their pristine perfection of gleaming enamel and sparkling chrome. Corrugated cases—cunningly devised to house the unit and its numerous attachments safely and compactly—turn the trick.

The coddling of these cleaners may be entrusted safely to rugged MEAD .009 Chestnut Corrugating. That's the super-strong corrugated board—made by MEAD of chestnut and other hardwood fibres—which has been protecting delicate mechanisms and fine finishes these past 20 years.

Mead Board is sold direct by

MEAD BOARD SALES, INC.

3351 MADISON ROAD, CINCINNATI 9, OHIO

A DIRECT APPEAL TO THE PEOPLE!

Presidential Elections are coming up in Johnny's club. The way he figures it—the fellow whose mother serves milk shakes made with Bopp's Chocolate Flavored Syrup can't lose.

Mr. Bopp has already elected to seal his product with Crown's famous Slip Rubber Ring lined closures. Slip Rubber Rings are impregnated with a lubricant for easy application and removal . . . they are vulcanized into the closure . . . they won't stick to the glass, or fall out or cut through with regular application. Of course, the closures include Crown's under-gripping, non-wedging Deep Hook Thread. Crown Cork & Seal Company, Baltimore 3, Md. *World's Largest Makers of Metal Closures.*

CROWN CLOSURES

Approved by millions of housewives

Printed transparent top by National Transparent Plastics Co., Springfield, Mass., for Chatham Manufacturing Co.

Printed wrap by Milprint, Inc., Milwaukee, Wisc., for Cannon Mills.

Laminated window box by Arvey Corporation, Chicago, Ill., for St. Mary's Woolen Manufacturing Co.

All transparent box by Duranol Products Inc. for General Electric Co.

The

SALES EXPRESS

Powered by Packaging with

LUMARITH* Transparent Film

There's no behind-the-scenes mystery for consumers when they shop for blankets today. Famous name brands—profiting by the boxmaker's skill—package quality lines in containers that offer the tops in sales charm . . . tell the inside story at a glance . . . protect merchandise against soiling, damage and losses through markdowns. Here is where you'll find a wide range of packaging methods—transparent rigid containers, wraps, window boxes, laminated containers, and cardboard containers with transparent lids—all depending on Lumarith transparent film for packaging perfection.

Lumarith's crystal clarity . . . its satin-smooth surface that's ideal for printed messages . . . its dimensional stability and flat, wrinkle-free perfection make it the first choice packaging material for quality merchandise.

There are unlimited packaging ideas in Lumarith. Get together with your convertor and his Celanese representative, develop the package that has your product *in there selling*. Celanese Corporation of America, Plastics Division, Dept. P-1, 180 Madison Avenue, New York 16, N. Y.

Lumarith*

A Celanese® Plastic

*Reg. U. S. Pat. Off.

DODGE MILBOSSED-TOP CORKS

DODGE Milbossed-Top Corks give you extra selling power at the point of sale. These attractive closures add distinctiveness to your package while assuring complete sealing protection for your product.

Here is the closure that seals and reseals perfectly . . . pleases product users because they are easy to remove and replace. Dodge Milbossed-Top Corks are made of uniform, high grade natural cork and joined to durable, cleanly knurled hardwood tops. These are furnished in any color . . . embossed with a name or trade mark. Have yours embossed on a Dodge Milbossed-Top Cork—top choice for today's competitive market.

DODGE CORK COMPANY, INC., LANCASTER, PA.

Colorful folder shows you how Dodge makes the air-tight seal with sales appeal. You'll also see how well-equipped Dodge is to serve your closure needs. Your copy sent on request.

DODGE CORK CLOSURES

designed to Guard the Integrity of the Contents

As the motion picture industry capitalizes on good *looks*, keen merchandisers capitalize on the selling power of an *attractive* package.

ELLEN DREW appearing in "THE MAN FROM COLORADO" a COLUMBIA Technicolor Production

The Product... the Package... and the WOMAN

TOP MERCHANDISERS of consumer products today think of "the consumer" as "SHE." They are alertly mindful of the fact that 65 million American women buy ¾ of all goods sold at retail.

They manufacture and *package* their products primarily to attract—to appeal to—to *sell*—WOMEN.

Their surveys (to discover *how* women buy) show that women make ¾ of their decisions as to *what brand* to buy at the point-of-sale—on *impulse!*

There—the women react to what they SEE (in self-service retailing *exclusively* to what they see). And what they see is *your package!*

HOW TO MAKE YOUR PACKAGE SELL!

Let Ritchie help you develop (at low unit cost) a package that meets the increasing challenge of self-service retailing. A practical, production-planned package that instantly identifies, fully protects and conveniently dispenses your product. Easy to fill or pack—to handle—to stack or display. An attractive, eye-stopping, SELLING package.

Never the Power

W.C. Ritchie and COMPANY
8840 Baltimore Avenue • Chicago 17
★ SET-UP PAPER BOXES
★ FIBRE CANS
★ TRANSPARENT PACKAGES
TRADE MARK

Underestimate of the Package!

NEW YORK • DETROIT • LOS ANGELES • ST. LOUIS • CLEVELAND • CHARLOTTE • JACKSONVILLE

BIG PRODUCTION FOR BIG USERS

If you are selling top-notch products to mass markets and your business is constantly expanding, perhaps you need greater container production to keep pace with your progress. We are geared to produce a wide variety of top quality round and oval containers and to deliver the goods in a hurry.

Call or write us now and we will be glad to show you samples of work we are doing for other leading manufacturers.

HARCORD MANUFACTURING CO.

A Division of the Meehan-Tooker Co.

152 BAY STREET • JERSEY CITY 2, N. J. • PHONE: DELAWARE 3-1212

ASK STOKES

Fill Tubes with Rugged Stokes Machines

THE SMALL operator who fills a few gross of tubes per day . . . the large operator who fills hundreds of gross per day . . . each finds Stokes equipment best.

Sixteen models with many patented features range from the small hand-operated bench models to the large full-automatic machine which fills, closes, seals, and ejects up to 150 gross of tubes per day.

Products handled in Stokes standard or specially modified machines may be as thin as water . . . as heavy as facial clay . . . as stringy as roofing cement. But speed, durability, ease of cleaning, accuracy of measurement, perfection of seal, and rapid adjustment for change of sizes or material characterize all Stokes machines.

For packaging products which tend to leak or seep ask about the Stokes-patented Westite Hermetic Closure.

F. J. Stokes Machine Company, 5970 Tabor Rd., Phila. 20, Pa., also makes Tablet Machines, Pharmaceutical equipment, Compact Presses, Vacuum Processing Equipment, Vacuum Pumps and Gages, Water Stills, Automatic Closure Presses.

Stokes Fully Automatic Tube Filling, Closing and Sealing Machine, Model 90D

STOKES KNOWS HOW

THE EYE.. TELLS THE HAND..WHEN TO REACH..

Cushion Brushing with REVOLVING BRISTLES
"BEST TOOTHBRUSH EVER MADE"
the toothbrush that really CLEANS TEET and MASSAGES GU
new!
BRISTLES REVOLVES
BERNARD REVOLVING BRISTLE BRUSHES
79¢
A PRODUCT OF BERNARD BRUSH CORP. CHICAGO

DOES YOUR PACKAGE HAVE THAT EYE APPEAL THAT SIGNALS THE SHOPPER TO REACH...

..IF NOT...HERE'S THE ANSWER

TRANSPARENT PACKAGING
UNUSUAL MERCHANDISE COUNTER DISPLAYS
CREATIVE FOLDING CARTONS
MOULDED ACETATE DISPLAYS IN COLOR
INTRIGUING SET-UP BOXES
SPECIALIZED PACKAGING

acme PAPER BOX COMPANY

creators • manufacturers • designers SIXTIETH AT STATE, CHICAGO, ILLINOIS

O-I lithographed closures dress up your package . . . attract customers' eyes.

TOPS that protect... and speed your sales!

YOUR PRODUCT and sales are *doubly* protected by O-I lithographed metal closures—

Freshness and flavor are sealed in by precision construction and by use of the exactly right liner material to protect your product . . .

You cash in on extra sales by putting a hard-hitting sales message in the free advertising space O-I closures provide!

Expert design-engineers are ready to suggest brilliant *lithographed* closure designs that will make your product stand out on retail shelves . . . and in the home!

Colorful O-I closures stimulate impulse sales... build your brand's identity . . . bring profitable repeat business. Complete range of sizes and shapes . . . prompt shipment.

CLOSURE DIVISION — OWENS-ILLINOIS GLASS COMPANY

TOLEDO 1, OHIO • BRANCHES IN PRINCIPAL CITIES

KEEP YOUR LABEL WHERE IT BELONGS

ALL THE WAY!

PASTES · GLUES · ADHESIVES GUMS
STAR BRAND

Competition is at its toughest right on the shelves of America's retailers . . . at the very point where the only message you can deliver is the one on your label.

It is at this crucial crossroad of successful marketing that the prestige of your good product, your well-designed container and your very name are *upheld by only the adhesive under your label.*

At this high-spot in your selling program, the proper Star Brand Adhesive can give you solid assurance and certain labeling satisfaction: *Your label does its selling job because it's there to do it* . . . and in the smooth, factory-fresh condition shown by recent surveys to affect the buying decision of the American Shopper.

Send for samples without obligation.

STAR BRAND ADHESIVES

- STAR Case Sealing Glue
- STAR Folding Box Glue
- STAR Hot & Cold Pick-Up Gums
- STAR Tin Paste
- STAR Brightwood Gum
- STAR Carton Sealing Glue
- STAR Bench Paste
- STAR Tube Glue
- STAR Lap End Paste
- STAR Tightwrap Glue

Bingham Adhesives

"MAKE YOUR IDENTITY STICK"

BROTHERS COMPANY

SINCE 1826

New York 406 Pearl Street | Philadelphia 1315 Race Street | Baltimore 131 Colvin Street | Rochester 980 Hudson Avenue | Newark Lister Avenue

How does YOUR advertising stack up against results like these?

Some of the best advertising to be found anywhere today is appearing in business papers. And when we say "best", we're talking about *results.*

Here, for example, are six recent case-histories which show the kind of results good business paper advertising can produce. They're all different—yet they all have this in common: in each case, the advertiser *knew precisely what he wanted his advertising to accomplish* . . . in each case, valid and adequate campaign objectives were set up . . . and the advertiser was able to measure exact results against those objectives.

ABP makes no claim for originating this doctrine—but we have preached it long and often. Because it has always been the objective of ABP's own advertising to help other advertisers get the most out of their business paper space.

Here are six who did!

1 CREATING BRAND PREFERENCE

A manufacturer of industrial lubricants wanted to increase the brand preference for his product. Surveys indicated that only 1.5% of the total buyers in the market were specifying his lubricant by name. After three years of intensive business paper campaigning he had established a strong brand preference among *10 times as many buyers!*

2 REDUCING SELLING COSTS

Before they started advertising in business papers, a company manufacturing motors found that their total selling cost was around 40%. By steadily *increasing* their space in business papers, they *decreased* their selling cost to 13%.

ABP's BUSINESS IS TO BOOST YOUR BUSINESS

continued on page 76

These 3 Brands Went to Market

IN NEW PACKAGES

Today, with almost one half of all retail food sales being made through self-service stores, the modern food package must have a high degree of sales appeal. Anticipating this trend, Red Owl Stores, Inc., prominent midwest food distributor, commissioned U.S.P.&L. to redesign the labels for three Red Owl brands.

At the left, are shown the old and new packages for FARMDALE, WIZDOM and HARVEST QUEEN canned food products. The design improvement is striking. Note particularly the strengthening of brand name and trade mark recognition on the new labels, as well as improved appetite appeal.

Writes Mr. Glenn R. Grife, Executive Vice President of Red Owl Stores, Inc.: "The new labels designed and produced by U.S.P.&L. for FARMDALE, WIZDOM and HARVEST QUEEN brands are winning new acceptance for these brands in our retail outlets. The reaction of our distributing organization and of our customers alike has been extremely gratifying and has been reflected in substantial sales increases of these brands. We are highly pleased with the results."

WRITE FOR PORTFOLIO OF CASE HISTORIES

Get this plastic bound portfolio of other "Packaging Case Histories from the files of U.S.P.& L." beautifully lithographed in full color and exemplifying U.S.P.& L. design, reproduction and merchandising know-how. Write for your free copy today!

e back or Consumer Panels of hree Red Owl packages are shown t the right. Note the different design techniques of handling this valuable space to merchandise the product directly to the consumer. Note, also, how brand and trade-mark identity has been maintained on the Consumer Panel designs.

ESIGNED TO SELL

—WITH CONSUMER PANELS GEARED TO DO *A Thorough Merchandising Job!*

Today's package must be a combination salesman and advertisement for the product it contains. The back or Consumer Panel of the label affords valuable space for carrying an advertising message directly to the customer. By the use of descriptive information, recipes and full color food pictorials, this part of the label is utilized to do a thorough job of merchandising the product.

TELL HER HOW . . . SELL HER NOW

HOMEMAKERS—your customers—are more interested today in new ways for using and serving food products than ever before. Take advantage of this consumer trend to gain greater acceptance of your brands by showing Mrs. Homemaker how to use your product with exclusive U-S EYE-PETIZED recipes and menus. All recipes and menus are planned by trained home economists. Sell more of your products by showing more ways to use it. Secure complete information concerning famous U-S EYE-PETIZED labels from an experienced U-S sales representative. Call the U-S office nearest you or write to the address below.

THE UNITED STATES PRINTING & LITHOGRAPH COMPANY

EXECUTIVE OFFICES: 802 BEECH STREET, CINCINNATI 12, OHIO ★ SALES OFFICES IN PRINCIPAL CITIES

5 GREAT "U-S" PLANTS PRODUCING HIGHEST QUALITY ADVERTISING AND PACKAGING MATERIALS

3 DRAWING INQUIRIES

A radio manufacturer introduced a new component with a campaign that ran exclusively in business papers. In less than 6 months this campaign drew more than 20,000 inquiries, resulting in 13,000 orders for a total of 3½ million units.

4 KEEPING THE DEALER SOLD

A large truck company—which allowed a smaller discount than their non-advertising competitors—was nevertheless able to attract more sales agents and dealers because their line was "the most widely advertised—therefore the easiest to sell."

5 MAKING IMMEDIATE SALES

After one appearance of an ad featuring a new FM transmitting antenna, a manufacturer received orders for 3—at $8,000 apiece—and inquiries are still coming in.

6 BREAKING THE ICE FOR SALESMEN

A manufacturer of organic finishes introduced a new product for which his salesmen had very few established contacts. After a few months of business paper campaigning, his sales force found greater acceptance of the new product among prospects they had formerly been unable to see.

HIT THE ROAD
FOR BETTER BUSINESS PAPER ADVERTISING
10 ways to measure advertising effectiveness in business papers
So you'd like to see
RESULTS

ABP *offers you these free guides to effective business paper advertising*

Hundreds of advertisers (and their agencies) have profited by ABP's very readable booklet, "Hit The Road", which makes a strong case for field research as a means of turning up good copy material. Recently we brought out two folders, "10 Ways to Measure Advertising Effectiveness", and "So you'd like to see RESULTS".

We'll be glad to send you any one of these — or all three.

ASSOCIATED BUSINESS PAPERS

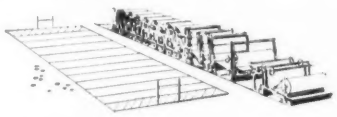
205 East 42nd Street
New York 17, N. Y.

The Big Swede has a New Brother...*

help us name him!

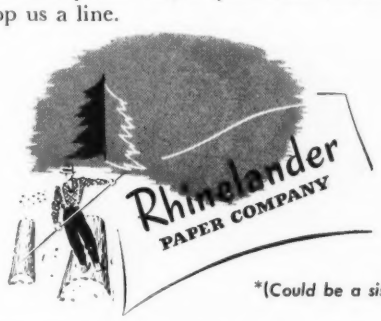
THE "BIG SWEDE" is a giant paper machine, named after the boss who was born in Sweden. The Scandinavian paper industry often confers affectionate names upon its machines.

TO THE WORLD of paper and packaging the "Big Swede" is probably the most famous of paper machines. This is partly because it is so enormous (the biggest glassine machine in the world). But also because the rather novel name seemed to endow the machine with a sort of human personality, which caught the public fancy. Finally, the "Swede" was dramatically born into an America just recently plunged into war and in urgent need of the glassine paper this huge machine could produce.



WELL, there is soon to be another blessed event in the Rhinelander family. The "Big Swede's" going to have a twin brother. He's big, too. (A football field couldn't contain the two of them.) By September he will be rolling out enough of those fine Rhinelander greaseproof and glassine papers to enable us to meet demand.

SO . . . WE NEED A NAME. To find one we are running a contest in paper and packaging circles. But everybody's welcome. If *you* think of a good name for the Big Swede's twin, send it in. You may win a cash prize. Or, if you want further details, drop us a line.



*(Could be a sister)

RHINELANDER PAPER COMPANY
RHINELANDER • WISCONSIN

Check if you would like more information.

I would like to submit the following name for the "Big Swede's" new brother*

.....

My name is.....
Firm name.....
Address.....
City.....State.....

Mail Your Entry Today...

sanitape-sealtite

is a unique method for packaging pills, tablets, capsules, creams and powders, by which each unit-dose is sealed in its own air-tight compartment—assuring complete protection and maintained efficacy. This outstanding packaging is adaptable to a wide range of uses from small, single-unit sample to large dispensing package—and is available on a "contract" basis through our superb plants which comprise 100,000 square feet of light, hospital-clean space, equipped with every modern facility and having a capacity of 10,000,000 units daily—efficient, economical and dependable. We relieve you of every packaging detail.

A COMPLETE CONTRACT PACKAGING SERVICE

UNIT PACKAGING

IVERS-LEE COMPANY • 215 CENTRAL AVE. • NEWARK, N. J.

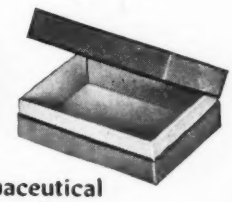
Packages, machines and methods fully covered by U. S. and Foreign Patents and Patents Pending.

Charmers

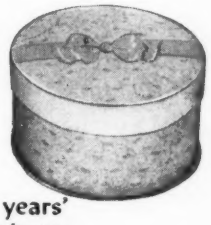
On the Champs-Elysees... Fifth Avenue . . . Wilshire Boulevard . . . Rowell adds exciting charm to cosmetic boxes for face and dusting powder.

Sleek, gay, and attractive, they catch the feminine eye and find their way into the tailleur of the most sophisticated.

precision color printing



pharmaceutical boxes



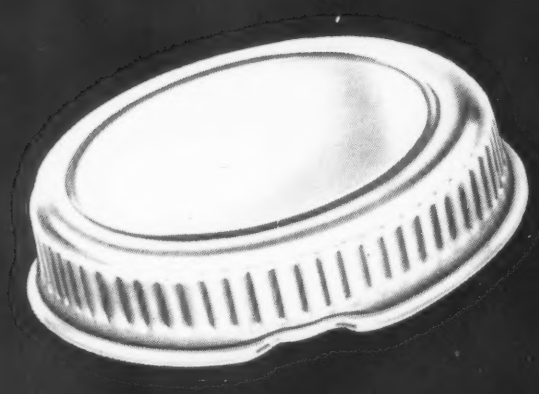
50 years' experience

E. N. Rowell Co. Inc.

Manufacturers of Fine Paper Boxes

BATAVIA, N.Y.

Peaks of convenience . . .



THE Anchor Amerseal Cap offers the ultimate in convenience for packers. In application, it may be started at any point on the container finish—no matching or adjusting to threads is necessary—quarter-turn sealing speeds production by either hand or machine. And it provides the ultimate in convenience for feminine fingers in removal and reseal. A simple quarter-turn and it's off—a reverse quarter-turn and it's on again, effectively resealing, time after time. And along with its convenience, it provides a tight, even, airtight, leakproof seal.

Anchor
CONTAINERS and CAPS

PRODUCTS OF
ANCHOR HOCKING GLASS
CORPORATION
LANCASTER, OHIO

MT. ARARAT . . . Centered between the Black Sea and the Caspian, the Mediterranean and the Persian Gulf, it proved a convenient resting place for Noah's Ark.

IT'S *Anchor Amerseal Caps*

FOR THE PEAK OF CONVENIENCE

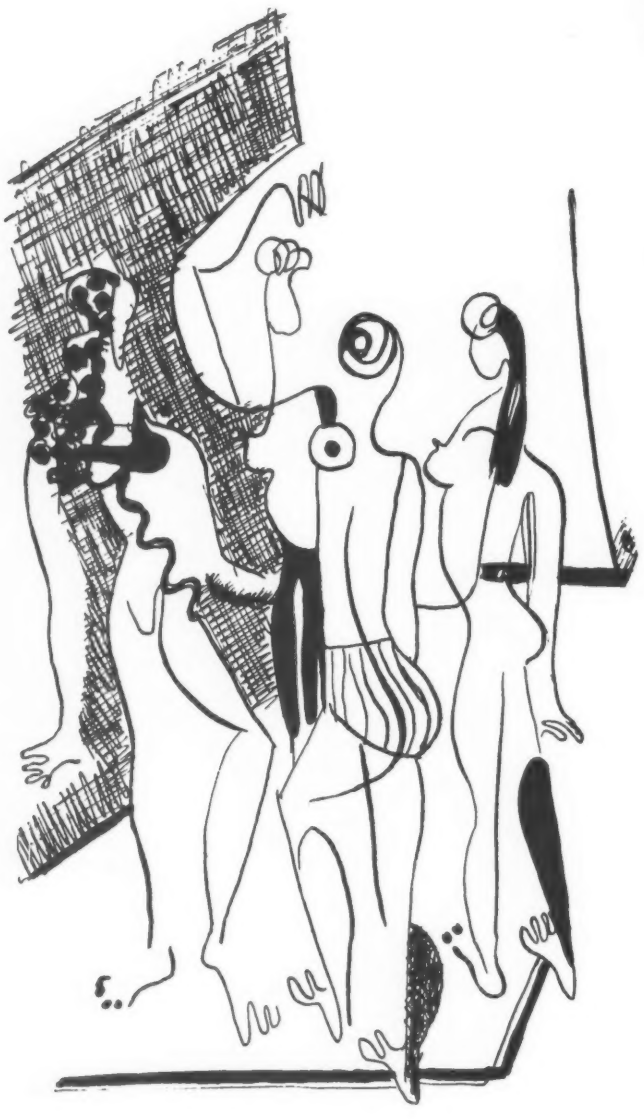
It's *Glass* for purity...

FROM nursing bottle days on, glass stands for purity. The glass container is the most sanitary package. It's made and sterilized by heat. Inert, it sets up no chemical reactions with contents . . . protects and preserves the true quality, flavor and goodness of your products as originally packaged. And glass containers have no seams to give, leak, rust or perforate. They can be effectively resealed to protect unused portions and contents don't have to be transferred to another container for safekeeping.

Anchor
CONTAINERS and CAPS

PRODUCTS OF
ANCHOR HOCKING GLASS
CORPORATION
LANCASTER, OHIO

AND IT'S *Anchorglass*
FOR MAXIMUM PURITY



Either, or . . . sure!

ABOVE, you see four reasons why the 1948 edition of the Dr. Pepper calendar will not lack the popularity, eye appeal and circulation of its predecessors. Models chosen by Conover, and direct color lithography by E-F—plus the date tables—are surefire for any calendar.

ON YOUR LEFT is a critical contribution from a young European artist who holds that American advertising art is needlessly literal, stereotyped, boring, *blague* . . . would be benefited by abstract art, as for instance. Miss Jacqueline Rozendaal, age twenty-one, is the abstractionist—after only two years of studying art in Paris! . . . That Paris must be some place, huh?

WELL . . . what was it we were going to say?—oh, yes! Whether you favor the chaste camera or the cheesecake abstract in displays . . . you can bank on Einson-Freeman to bring out the ultimate excellence in either, and the best in both! And our gentlemanly representatives are always interested in talking art—also business! No charge for talking either or both!

Einson-Freeman Co., INC.

Never-at-a-loss Lithographers

Starr & Borden Avenues, Long Island City, N.Y. . . .

with offices in Chicago • Cleveland • Cincinnati • St. Louis
Minneapolis • Atlanta • Dallas • Los Angeles • San Francisco

A Year 'Round Gift in an all-around Fine Package by Farrington

Here's distinctive showmanship at work . . . the famous Parker "51" in a Farrington box custom-designed to sell this product . . . *and this product alone!* . . . Through the years, specialized ability has keynoted this country's most outstanding business success stories. Which is probably the strongest reason that Farrington has become America's largest metal display box manufacturer . . . And that means large production capacity, coupled with the industry's broadest and most seasoned design background . . . If your present package is not doing an efficient or fully profitable job, it's time we get together . . . The cost, you say? Not nearly so much as you might guess! *And Farrington Packaging produces multiple returns on your investment.*

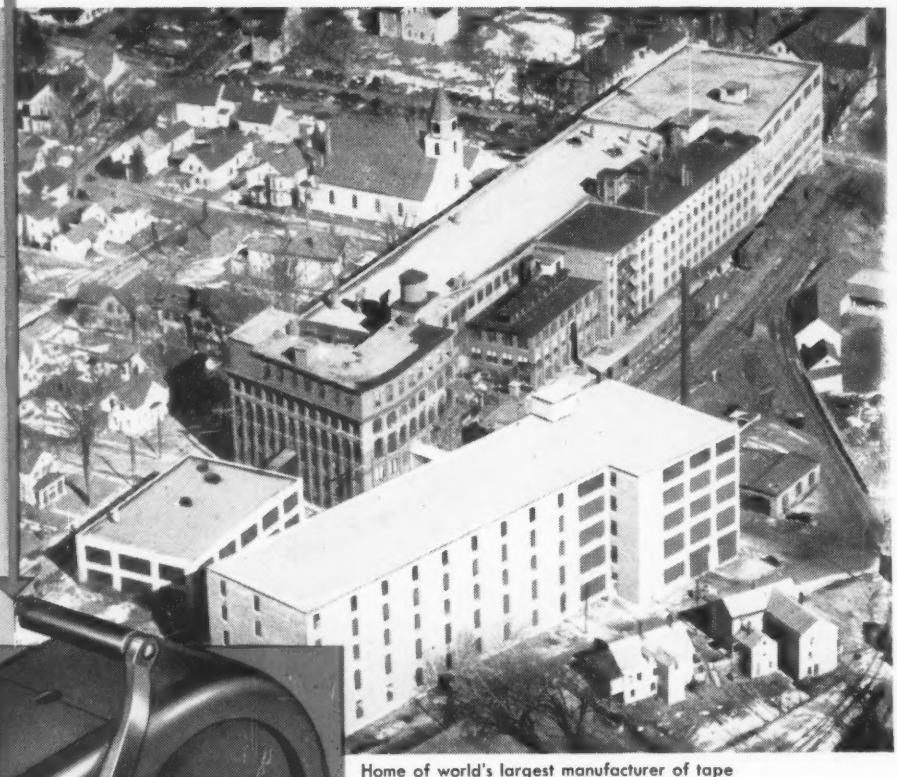
It's *Packaged* BY *Farrington*

FARRINGTON MANUFACTURING COMPANY

General Offices: 76-P Atherton St., Boston 30, Mass.
Canadian Plant: Farrington Mfg. Co., Ltd., 1191 Bathurst St., Toronto 4

SPECIALTY BOXES . DISPLAY TRAYS
METAL SPECIALTIES . CHARGA-PLATE SERVICE

Put it up to a NATIONAL TAY-PER to Cut Costly Damage Claims



Home of world's largest manufacturer of tape moistening machines and tape.

NATIONAL TAYPER
MODEL 52

...Assure Safe Delivery of Cartons thru POSITIVE *AUTOMATIC MOISTENING CONTROL!

Customer good will and profits go down the drain if cartons and contents arrive in poor condition or worse! And industry's bill was $200,000,000 in '47 in damage claims! How about *your* shipping room? You can assure perfect closure every time by putting a NATIONAL TAYPER on the job. It *automatically* dispenses tape that *stays put* because it's never too wet or too dry at ends, middle or *any* part.

POSITIVE AUTOMATIC CONTROL does it—assures the right sealing lengths too, prevents waste, saves up to 50% on tape. And what speed when the pressure's on! For added protection, investigate Nashua's printed ITSTIX tape. It identifies your package while safeguarding against pilfering. Get the facts on Nashua's complete protection "package" in machines, tape and service today. Mail coupon below.

*Endorsed by the Association of American Railroads and the Gummed Industries Association, Inc.

NASHUA

SEAL IT RIGHT
WITH GUMMED TAPE

NASHUA PACKAGE SEALING CO. INC. M

NASHUA, NEW HAMPSHIRE

Please send more facts on Nashua's 3-Point Program for Safe Arrival At Destination.

Name .....

Company .....

Address .....

Modern packaging

Design No. 3
INSPIRED BY BOTTICELLI'S FAMOUS PAINTING
"THE BIRTH OF VENUS".
In the Botticelli masterpiece Venus is depicted rising from the waves on a tinted sea shell with the zephyrs blowing her to shore while Flora is scattering pink roses in her path ... The original picture is described as being "Rich in suggestions, calling up ... nostalgic visions which have never failed to charm ..." This priceless picture is the basis of the "BIRTH OF VENUS" package design which is submitted. The idea was originated by ... and executed by ...
IT'S NEW! ... IT'S ORIGINAL!

VENUS BOX, inspired by the Botticelli masterpiece, "The Birth of Venus," is now the package for a face powder which three national magazine surveys show is "topped by no other brand in numbers of buyers and users."

WOODBURY UP-TO-DATE

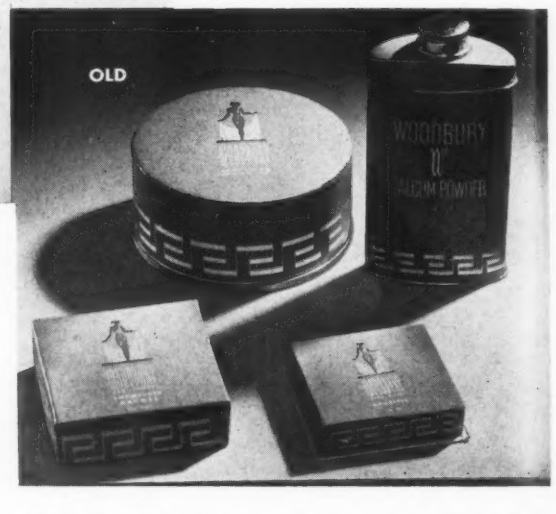
Andrew Jergens' second package redesign program in 10 years is a striking example of the meticulous planning it takes to maintain leadership in the field of mass-market toiletries

In 1938, the Andrew Jergens Co. modernized all of its Woodbury packages with the Greek key design as the identifying symbol. Today every one of those packages is history. The complete Woodbury line of beauty preparations has been redesigned again and is now on the market in new packages—soap, powder, creams, lipstick, rouge, shampoo, hand lotion, men's toiletries—totaling 25 or 30 items and sizes.

The details of how this program was accomplished, told exclusively to MODERN PACKAGING, constitute an outstanding, more-than-meets-the-eye example of the unbelievably meticulous package planning it takes to keep abreast of changing trends and to maintain leadership in the stiff competitive field of mass market toiletries and cosmetics.

The Woodbury redesign program is a sequel to a wartime phenomenon when enormously increased incomes made it possible for the masses to afford and to buy

SMALLER SIZED square powder boxes and lithographed talc can are beautifully adapted to Venus design. Display cards describe company's new selling units—the 30-cent economy size and the new 15-cent package replacing the 10-cent one—giving the consumer twice as much powder for the money, the dealer a larger unit sale and the company a slightly greater margin for cost of packaging materials.



OLD PACKAGES for powder were outstanding among mass lines, but classic motif had lost much of its original distinctiveness through use of this design in other fields of decoration. New Venus theme was also felt to be improvement over abstract figure used on old packages.

higher priced goods. To Jergens and its advertising agency, Robert W. Orr & Associates, which worked closely with the company on details of the program, it was apparent that packages which were good in the immediate prewar period, would not do the job in the highly competitive market to follow. A powerful mass purchasing market that had acquired a "taste for good taste" when it had many dollars to spend would demand the same good taste for its money when the dollars became scarcer. Such a market would no more be satisfied with prewar styled packages than it would with prewar hair-do's or fashions, they reasoned.

The new packages are thus the result of four years of the most intensive research to streamline already existing modernized package designs. They involved the consultant advice of several top-notch designers and the retaining of one who worked closely with the advertising agency art director to overcome technical details; nationwide surveys to determine consumer and dealer preferences in design themes and color symbols; the most scientific methods of measuring readability of package lettering, and engineering study for greater efficiency of production.

The study began with a five-point search for the most effective design and color symbols: (1) to assure quick, enticing identification; (2) to give a well-bred "family" feeling; (3) to add new grace and richness and instill pride of ownership; (4) to secure maximum display; (5) to make each product in the line *stand out* from the "crowd."

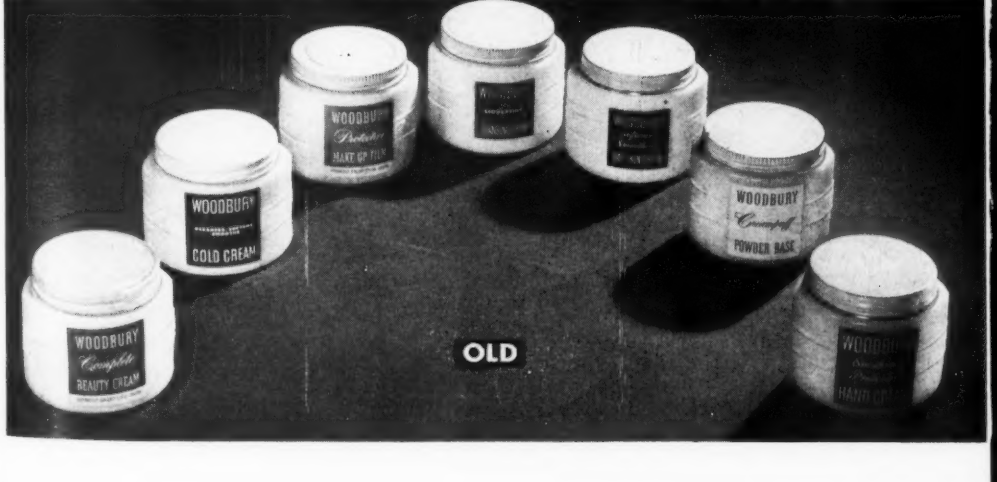
First approach was to determine what elements of the old Woodbury powder box could be retained and improved to meet the final objective. The classic Greek key design and the Woodbury blue were outstanding among mass lines and the package was still good, but it was pointed out that it often lost its effectiveness due to color variations of the blue—a shade difficult to print uniformly. The key motif, through wide usage for decoration in other fields to suggest classic beauty, had also lost much of its original distinctiveness and identity. Even with modifications, it was felt the old design did not lend itself with complete success to an up-to-date 1948 line.

This decision led to the consideration of hundreds of design ideas, which were finally narrowed down to three that seemed to have outstanding possibilities. First of these was a delicate floral motif in the form of the Woodbury "W." This was simple, feminine in its good taste and appeal, distinctive for display and said "Woodbury" unmistakably against a new blue background. But it was the company's feeling that flower designs, despite almost universal acceptance in the toiletries field, may have been overdone.

The second theme considered was a single orchid on a variegated light and dark blue background—a single flower expressing the very essence of luxury and with promotional power of making Woodbury powder the

DISTINGUISHING COLORS identify each variety of cream. Labels for four of the leading face creams are reproduced here. Each color was chosen to "stand out in the crowd" on the store counter. No delicate shades would do this job. Each color had to be sufficiently strong to give maximum display, yet subtle enough to maintain the "salon look" of quality cosmetics.

SWIRLED ROPE design of new cream jars is believed to have a warmer feeling than the previous Greek key design molds. The smooth, rolling character of the design is said to have effected a 4% improvement in packaging production efficiency, preventing the interlocking of the key design which tended to slow up production. Identity and recognition are improved through the use of extended sans serif logotype on the new horizontal labels.



"orchid of powders." But it was concluded that this design, which incorporated the Woodbury name in fine script letters as part of the design, would not solve inherently the packaging problems of the entire line.

The third design and the one finally selected was inspired by Botticelli's famous painting, "The Birth of Venus." This, it was decided, had the basic elements of style and good taste regardless of temporary fashion trends. Here could be the "goddess of beauty as a flesh and blood symbol of all Woodbury beauty products—a great advance over the cold abstract figure used on the previous Woodbury powder box." With the striking, modernized Venus theme were incorporated delicate pastel flowers as an incidental part of the design, thus combining the long-known foolproof motif in cosmetic packaging with a new identifying symbol, but overcoming any objections to a purely floral design. In the cerulean blue background with pink figure and flowers were combined the most popular of feminine colors. In the Venus package the company felt it had an exclusive packaging theme that could outpoint class as well as mass competition with compelling promotional possibilities.

The Venus package was not selected, however, before

IMPROVED RECOGNITION with new logotype is the principal feature of the redesigned soap wrapper. Company adopted the three-cake thrift combination as a continuous selling aid.

NEW BOTTLES for shampoo and hand lotion (foreground) have a family resemblance to the swirled rope design of the face cream jars. New short-skirted caps are more convenient and can be sorted automatically. Note the striking contrast between recognition values of old and new labels.

POLISHED METAL replaces the enameled rouge and lipstick cases. The design ties in with swirled rope motif of jars and bottles, also suggests shell flutings of the Botticelli painting.

it was determined to be what the great American public would pick as the best Woodbury package. The company sent independent researchers to housewives, office and factory workers with the three designs—Floral W, orchid and Venus—along with the old Woodbury powder box design to find out which they liked best. More than 2,000 interviews were made in Philadelphia, Cleveland and Springfield, Ohio. Only two designs were shown at a time—the present package and one of the new designs—as it is found to be better research procedure not to confuse selection with more than two choices. Here are the results:

Old package	*vs.*	*New design*
44.3%	Floral	54.8%
35.3%	Orchid	63.7%
40.3%	Venus	59.0%

These findings indicated clearly that the public favored all three new packages over the old one. The margin of preference for the floral design was too slight for further consideration. The decision to go ahead, however, with the Venus package—counter to the greater consumer preference expressed for the orchid design—took courage. Yet from a practical standpoint, all odds were in favor of the Venus. The Venus package would have a distinctiveness that could not be matched by the orchid; it was adaptable to other items in the line and its highly powerful potential for promotion was unequalled.

The Venus package is a decidedly important vehicle in selling Woodbury's new powder made in a new blending machine said to provide extreme fineness of texture.

The dollar Venus package is a drum-shaped box with drawn-acetate cover fitted over the full-color lithographed box covering to give a luxurious, glossy surface resistant to dust and shop wear.

The Venus design has been adapted to the two smaller sized powder boxes—30-cent and 15-cent. These boxes are square and have distinction in that they are the only sampler sizes among their competitors to be made in this shape. They also have acetate windows so that powder shades may be seen by the shopper when the box covers are removed. This feature has been a decided aid to the dealer for display. In fact, so eager were some dealers to show several of the boxes open that the company discovered they were cutting off two of the flanges on the box bases in order to show the boxes open, with cover standing up over the base. If this was such a good display idea, the company thought it might be advisable to make the box bases with only two sides flanged, retaining two for convenient opening of the box. This was tried for a time, but the idea has now been scrapped. While it had merit, it was believed not sufficient to warrant sacrificing the finished appearance the four side flanges give to the boxes.

Backgrounds for all powder-box coverings are blue, but printed in mottled effect. This is a clever way to overcome color variations in printing. Slight variations are less noticeable if the printing design is mottled instead of solid color.

The Venus design has been readily adapted to lithography on metal cans used for the company's talcum powder. New Woodbury lipstick and rouge cases carry out the Venus theme in that the shell flutings in the Botticelli painting are interpreted in the metal. These flutings also tie in with the swirling rope motif for the new Woodbury cream jar molds and lotion and shampoo bottles.

Cream jars and bottles

Now reaching dealers' shelves nationally is the entire line of Woodbury creams in new private-mold jars with newly designed labels. The new jars are oval in shape —a design feature that prevents rolling in counter display arrangements. The swirled rope motif of the jars

GAMECOCKS, suggested by old prints, provide a design theme for the men's line which is simple, direct and masculine in conception. Coloring is buff yellow, brown and black. Identity is strengthened by use of family logotype.

is more pleasing to the eye, it is believed, and less cold than the Greek-key-designed jars formerly used for these products.

Before adopting the molds, the company placed a number of them in various locations approximating stock, shelf and counter conditions to prove that the container design was not a dust catcher to mar the cleanly appearance of a quality package.

Production efficiency

These new jars represent a 4% improvement in packaging production efficiency. The former Greek key jars had a tendency to interlock on the protruding edges of the design as they moved along the conveyors, which tended to slow up the lines slightly. Because of the smooth, rolling character of the rope-design bottles preventing interlocking, such slow-up is completely eliminated, the production department states. Production efficiency was also increased by planning the jar molds so that the flat label panel is the same height as the highest point of each flute in the rope design, rather than depressed as was originally contemplated. This simplifies greatly the rub-down operation for label adherence.

Pre-production dummies of all packages were submitted to the production department prior to adoption for recommendations on improved efficiency that might be achieved in production operations through the package change-over.

Efficiencies similar to those achieved with the new jars were also obtained through the adaptation of the new rope design to bottles for hand lotion, shampoo and for new squat bottles selected for Woodbury after-shave lotion.

The new bottles reduce breakage because their shapes provide more strength against stresses than bottles formerly used. Elimination of long-skirted caps means not only more convenient squat containers for

the consumer, but permits automatic capping, since the shorter skirted caps can be sorted by machine. The former caps had to be handled manually. Wider margin clearance for the depressed label panel on the bottles provides more flexible limits for label placement, another factor that speeds production.

New logotype

One of the most important decisions in the whole program was the selection of new logotype lettering for the trade name "Woodbury." Previously, because of the vertical shape of the labels, particularly on the cream jars, this lettering in very condensed caps was not easy to read.

The redesigning of these labels in a horizontal rectangle permitted a complete change to more extended sans serif lettering, all lower case with an initial capital W and graceful handling of an eight-letter word with two "o's" and a "d" in sequence. This Woodbury logotype has now been adopted for all products.

Readability tests

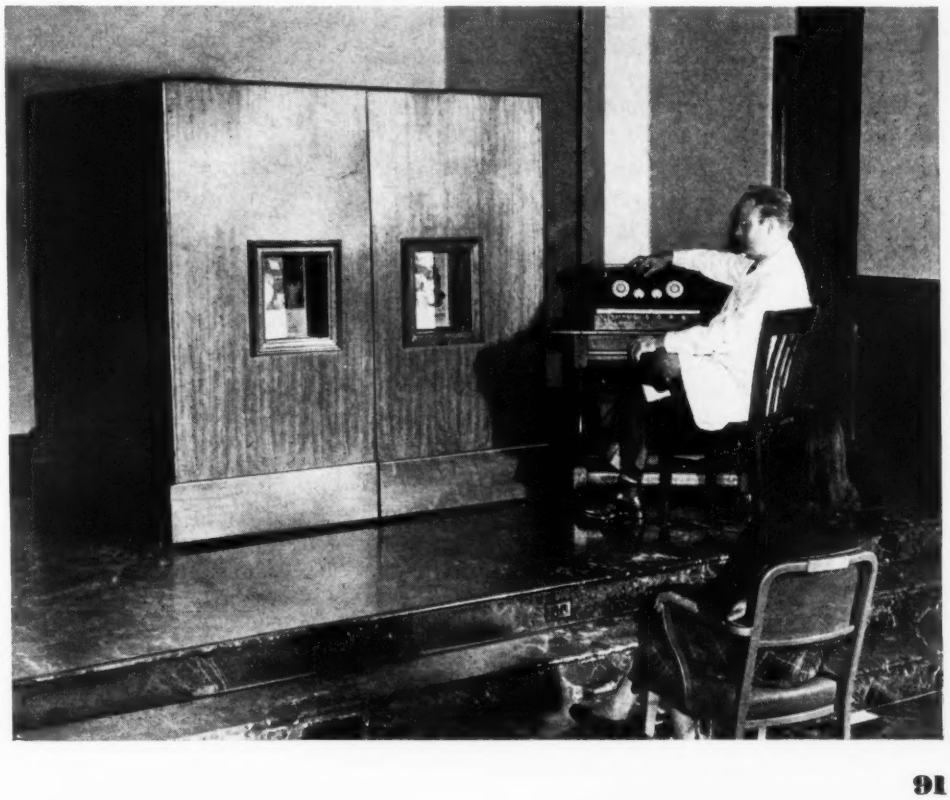
The lettering, however, was not selected by guess work. In cooperation with the Psychometric Research Laboratories of Joseph E. Seagram & Sons, Inc., Louisville, Ky., the most scientific methods in use today were employed to determine the legibility of the Woodbury labels and logotype. By this method, the visual effectiveness of various samples of labels is measured by the speed with which recognizability may be recorded in a series of optical observations ranging from darkness through various degrees of light and from blurs to focusing on an image.

The visual-exposure device for this procedure, developed at Seagram, is especially designed for the study of advertisements and packages, adapted to a number of presentation techniques, such as paired comparisons, rank order and absolute judgment methods. It consists of a cabinet equipped with two viewing windows (see illustration). Within the cabinet are two ferris-wheel-type machines which may be operated independently or in conjunction with each other. Each machine is comprised of eight different stages, 10 by 14 by $6^3/_4$ in.

By means of a remote control panel board, a laboratory technician can present visual stimuli in any order and in any combination under controlled conditions of illumination and exposure time.

In the legibility studies, the shadow-box principle of the device is employed. Darkness-adapted observers are seated, one at a time, directly in front of the instrument at a standardized distance. The technique employed is the determination of the legibility threshold in terms of illumination level. The illumination level for minimum perceptibility for the pattern is determined for each observer. By averaging the illumination level obtained from the responses of a number of observers, the legibility factor is computed.

A measure of the recognition factor of the package may be obtained by utilizing the tachistoscope function of the visual-exposure instrument. In a typical recognition study, the packages are presented individually to a group of observers. Certain obvious identifying properties of the patterns, such as brand name and the like, are eliminated without changing the original configurations. Recognition is measured on the basis of the exposure time required for valid identification and recognition value is the average exposure time for



VISUAL EFFECTIVENESS of labels was determined by analyses made in Psychometric Research Laboratories of Joseph E. Seagram & Sons, Inc. Photo shows instrument used for tests, before which observer is presented with series of visual stimuli under controlled conditions.

identification of the patterns by a number of observers.

Memory value of package design is obtained with the tachistoscopic function of the visual-exposure instrument.

A number of observers, who participate one at a time, view successively a series of packages or labels during controlled time intervals. Each observer is asked to record the number of brand names he perceives. By noting the relative frequencies of responses, averages are determined which enable the samples to be ranked in the order of their memorability.

Color identity

Jergens is also very proud of its system for identifying each variety of cream in the line with a distinguishing color. These colors—green for the beauty cream, magenta for cold cream, burnt orange for powder base foundation cream, brown for dry skin cream, light blue for liquefying cream, etc.—were selected with the greatest care and in accordance with women's known preferences.

Since a great volume of Woodbury sales is on self-service counters, these colors must be intense enough to give maximum display, yet subtle enough to keep the "salon look" of high quality beauty products. Too delicate colors will not do this job. Therefore, the colors had to be chosen so they "stand out in the crowd," yet retain the elements of cosmetic appeal. According to Jergens, the Woodbury line is the only one in the mass-market toiletries field that employs this complete differentiating color device for creams.

Labels have also been improved by what the company believes are more accurate product descriptions, thus making it easier for the consumer to select the various types.

For example, the "Complete Beauty Cream" carries a reverse panel which designates this product as "all purpose," thereby giving maximum emphasis to the fact that this is an all-around beauty cream.

All members of the face-cream group carry the identifying Woodbury logotype and are unmistakably members of that family, even with the variation of colors. The only one that deviates from uniform format is the hand cream, differentiated by special script lettering of product name, so that it will be easily distinguished from the face creams.

The identifying "W" formerly lithographed on jar caps has been eliminated. Because of the difficulty of centering this when the caps are screwed on, the jars present a neater appearance without it.

In fact, no detail has been overlooked in presenting these products so that they are easier for the dealer to sell and the consumer to buy, whether a clerk is on hand to do the selling or whether the package stands on the counter as its own salesman.

Men's line

As strikingly as the Woodbury beauty products are feminine, the men's toiletries are masculine—direct and without frills.

Identifying design theme for the men's line is a motif of gamecocks—inspired by a collection of rare prints seen by the art director in a friend's study. The design is simple and uncluttered, with a color scheme of brown, yellow buff and black throughout—unmistakably Woodbury because of the quickly recognizable and memorable logotype, the same as is used on the beauty-preparation packages. Colors are reversed on the collapsible tubes to distinguish the lather type of shave cream from the brushless. A simple squat bottle mold has been adopted with a short-skirted cap. The bottle has a narrow type of opening to provide a shaker dispensing feature. A new 36-head filling machine was installed at the plant to take care of this revised filling operation.

Cartons, metal containers for powder, tubes and bottles all are designed for family resemblance with good, readable type for all product names.

Soap

Woodbury's soap wrappers have also been given a design lift by the introduction of the more readable logotype which now gives more emphasis to brand name.

This simple, bold treatment is a far cry from the original package (see illustration) bearing the line drawing of its originator, John H. Woodbury—again illustrating the change in pace and the demand for better-looking packages.

Change-over

At the present time, the new packages have reached practically all parts of the country. There was no need to withdraw any merchandise to replace it with new packages and, in many outlets, old packages have been sold right along with new. Every attempt has been made by the company, however, to notify dealers of the coming change so that they might arrange their orders for new packages in accordance with diminishing stocks of the old ones.

Hundreds of thousands of dollars have probably been spent on this package redesign program—a program which the average consumer takes for granted, or may not consciously observe. Does it pay? Here's your answer, quoted from current Woodbury advertising copy:

"No other face powder has more users than Woodbury. A recent survey among readers of three women's magazines shows that Woodbury is topped by no other brand in numbers of buyers and users."

CREDITS: *Round Venus powder box, F. N. Burt Co., Inc., Buffalo, N. Y. Box wraps (lithographed), U. S. Printing & Lithograph Co., Cincinnati, Ohio. Opal jars and bottles, Carr-Lowrey Glass Co., Baltimore, Md., Hazel-Atlas Glass Co., Wheeling, W. Va., and Anchor Hocking Glass Corp., Lancaster, Ohio. Metal screw caps, Hazel-Atlas Glass Co., Wheeling, W. Va., and Phoenix Metal Cap Co., Chicago. Phenolic bottle closures, The Armstrong Cork Co., Lancaster, Pa., and Owens-Illinois Glass Co., Toledo, Ohio. Lipstick and rouge cases, Scovill Mfg. Co., Waterbury, Conn. Tubes (men's line), A. H. Wirz, Inc., Chester, Pa. Cartons, Richardson Taylor-Globe Corp., Cincinnati, Ohio.*

This month's COVER PACKAGE*

No. 19 of a series

THE PROBLEM: A large packer of dried fruits presumably is proposing to repackage his entire line under one brand name. The appeal is to the mass market as opposed to the luxury market and protection of content for transportation and long shelf life is an important factor. The market is very competitive pricewise; therefore packaging costs both as to materials and labor must be kept to a minimum. Surveys have shown that better than 60% of dried fruits are bought on impulse, so the product must have maximum display value and a high brand recognition factor. A new brand name is to be chosen—one that will be short, appropriate and easily remembered. These are California products and the value of their origin should be exploited. Since all dried fruits look very much alike, the packages must carry the burden of suggesting the high quality of the product.

THE SOLUTION: The designer started with the brand name "Fiesta" as being brief, rememberable and pleasantly suggestive of California. For protection he chose a two-color-printed tray of rigid laminated board with glassine liner, which may be received flat, set up by machine, handled on a conveyor belt for filling and automatically wrapped with moistureproof cellophane. The proportioning of window and printed surface gives excellent visibility and at the same time, effective brand and trademark identity. The color scheme was chosen not only for its gay, bright "Fiesta" connotation, but also for maximum contrast with competitors' packages. A lettering was designed for the brand name that has character and interest without any sacrifice of legibility. The trademark, incorporating the letter "F" in the logotype style superimposed on a conventionalized blossom and surrounded by the phrase "Fruits of California," is given prominence by partial silhouetting on the end piece of the tray and helps to emphasize California origin. Bottom panels are to carry sales copy, suggestions for use and cross advertising of other products.

THE DESIGNER: Tinsley T. Jepson, Los Angeles, has devoted himself exclusively to package design for 18 years, after early experience in layout and design for various advertising agencies, engravers and art services. Ten years as package designer and consultant for Marathon Corp., backed up by constant study of packaging and merchandising, provided the technical knowledge and experience for his subsequent career as an independent designer. In his successful work for a wide variety of products he has held firmly to the theory that to be successful a package must be designed as an integral part of a complete merchandising plan. Among the clients he has served are Interstate Bakeries Corp., Fruit Industries, Ltd., Richfield Oil Corp., Hotcan Corp. and Siller's Paint & Varnish Co. Several of these packages have appeared recently in MODERN PACKAGING.

TINSLEY T. JEPSON

* Brand and company names used in the hypothetical design are purely fictitious; the design remains the property of the designer who conceived it for this cover illustration. Any resemblance to any existing package is purely coincidental.

A PROMINENT PLACE in service station display is won by new Nor'way cans—colorful, well identified and practical.

CSC's TWO FAMILIES

How the challenge of proper package design for two lines of products circulating in totally unlike fields was met

From eye-catching packages that will sell anti-freeze in filling stations to convenience packs for strictly ethical drugs administrated only by physicians. That is the unusual range of package design activity at Commercial Solvents Corp. in the last year. The program has involved the creation of an entirely new family package design for the company's line of automotive specialties and a rapid expansion and improvement of its packaging for ethical pharmaceuticals.

Although it markets hundreds of diverse chemical products through its agricultural, industrial, chemical, automotive specialties and pharmaceutical divisions, the company's packaging program is primarily concerned with the products of the last two divisions. CSC's automotive specialties products are consumer items; its pharmaceutical products are ethical items sold only on prescription.

Automotive specialties line

Included in CSC's specialties line are Peak (glycol) anti-freeze, Nor'way (methanol) anti-freeze, Nor'way Dry-Ex and the Nor'way line of cooling-system products: Quick Flush, Stop Leak, Cleaner and Anti-Rust.

Redesign of the specialties packages had been delayed by the war when anti-freeze was marketed on an allocated basis and again by the postwar shortage of necessary raw materials for the manufacture of these

chemicals. Anticipating the end of the raw-materials shortage and return to normal competitive practices, the sales promotion division last fall instituted a study of the company's specialties packages.

Sales of these items are largely seasonal. Commercial Solvents sells to jobbers who in turn sell to service stations and garages. Anti-freeze products are distributed to jobbers in the spring and summer; the cooling-system chemicals, on a year-around basis. The motorist purchases his anti-freeze usually in the late fall and early winter and obtains his cooling-system products in the fall and spring. This schedule results in specialties products often being stored for months on dealers' shelves.

All the liquid specialties products are packaged in metal cans. Nor'way Cleaner, a crystalline powder, is packed in a fibre container. The old packages were basically white in color, with a narrow blue band encircling the bottom. The brand name appeared in blue at the top of the cans; the name of the product appeared in reverse on the blue band. In the center of the Nor'way cans was featured the "Nor'way Service Man," a figure which had been used for years in CSC's specialties advertising as a symbol for reliable service. Peak containers used a visual representation of the brand name—a snow-capped mountain peak.

In working out the company's new packaging program, the sales promotion division worked in conjunction with an outside designer and received the cooperation and support of the sales, research, production and legal departments of Commercial Solvents. All the comments and criticisms of the specialties packages gathered by the company's sales force were reviewed by the sales promotion division. Although the old package line was acknowledged as a good basic design, two principal deficiencies were noted. The large white areas on the cans showed soilage too readily. Jobbers and filling-station attendants objected to the constant cleaning of the cans necessary to maintain a neat appearance about the station. Another fault was the lack of immediate product identification because of similarity in design, size and shape of the packages.

Rather than modify the existing packages, the company decided to create an entirely new design for the specialties line. In determining the copy to be used, the viewpoints of the jobber, the ultimate consumer and the requirements of the law were considered. The results were boiled down to four primary elements which it was

THE OLD specialties cans had good basic design, but lacked both complete family tie-up and clear distinction of the different products. The large white areas picked up soil.

THE NEW colors are practical and compelling, and products are clearly distinguished by symbols and lettering. Nor'way features compass lines and north star.

KWELL OINTMENT
KWELL OINTMENT
CSC
PENICILLIN G SODIUM SALT
NO REFRIGERATION REQUIRED
BOTTOM—OPEN OPPOSITE END
PENICILLIN G POTASSIUM SALT
PENICILLIN G POTASSIUM IN OIL AND WAX
CRYSTALLINE PENICILLIN G
PENICILLIN TROCHES
CAUTION: TO BE DISPENSED ONLY BY OR ON THE PRESCRIPTION OF A PHYSICIAN OR DENTIST.
C S C PHARMACEUTICALS

COLOR PLATES & PHOTOS COURTESY COMMERCIAL SOLVENTS CORP.

PHARMACEUTICAL LINE is large and varied as to packaging requirements. All the drug products illustrated above are administered by physicians and convenience is as important a factor in packaging as is clear identification. The basic design links all packages in the line. The narrow band encircling the top of each package contains the potency and strength of the contents. The second wider band around the upper half of the package lists the product. The CSC trademark oval establishes a family relationship and unifies the upper half of the package with the lower section which contains cautionary statements required by the FDA. Colors of stripes and direct or reverse lettering distinguishes the many forms and strengths of penicillin.

felt required the greatest prominence in the new design:

1. Brand name, Nor'way or Peak, since the company felt each had acquired a reputation for quality and reliability
2. Name of the product
3. The company's logotype
4. Main selling points of the product

In addition to these, directions for use were essential, cautionary statements and disclaimers were required by law and on the anti-freeze containers protection charts were needed for the dealers' or consumers' information. It was decided to retain the Nor'way Service Man, but to relegate him to a minor position and to list other CSC automotive products so that the dealer or motorist would be acquainted with them.

With this information the designer went to work. Several designs were submitted. These were analyzed and discussed in detail by the sales department and modifications were suggested which met the approval of the various departments within the company, as well as the designer.

Before final adoption, however, samples of the proposed packages were made up for the sales force so that they could obtain the reactions of jobbers, dealers and consumers. With minor changes, the packages received general approval and the final designs were completed and turned over to the can companies for production.

As shown by the accompanying color plate, the Nor'way line now is basically a rich, dark blue which not only conveys the impression of quality products, but is virtually soilproof. For contrast and visibility, the brand name is in yellow. Directly below is the product name in white. Identification of the Anti-Rust and Stop Leak packages is achieved by variation in color and design. Stop Leak is in black on a yellow circle; Anti-Rust is black on a white octagon. At the bottom of all containers are the main selling points of each product. An unmistakable family relationship is established throughout the specialties line by the use of the CSC logotype, which is a white CSC on a red oval. Red was selected as an accent value for the front panels and for caution notices on rear panels. A white line separates the red from the blue to minimize vibration of the colors.

Discussion by CSC's sales department had centered about the brand name Nor'way. The word is a contraction of "North Way." It was felt that some means had to be worked out in the design to emphasize this point and to distinguish it from the name of the country. The problem was resolved by the use of compass lines with the north arrow emerging from the top of the letter "N" in Nor'way and a small white north star above it. While fine enough to prevent cluttering up the design, the compass lines add significance and interest to the appearance of the front of the containers.

The list of CSC automotive products is carried on the sides of the packages, with directions for use and other information on the back panels. The Nor'way Service Man has been retained on a side panel of the Nor'way containers.

To distinguish the Peak containers from the Nor'way, a silver band surrounds the top of the Peak packages. The brand name is in blue on the silver. The mountain-peak illustration has been retained at the bottom of the container.

Ethical products

The packaging of CSC's ethical products required a different approach than that for consumer items. The large amount of copy required by the Food and Drug Administration necessitates a certain degree of standardization in design. An ethical package line must be conservatively designed to meet the approval of the physician and pharmacist and yet be distinctive enough to be readily differentiated from competitive lines. At the same time, individual product identity must be maintained. Commercial Solvents' problem was to work out a functional design, containing all necessary information, which could be easily adapted to a large variety of standard boxes, syringe-type vials and bottles.

The June, 1944, issue of MODERN PACKAGING described Commercial Solvents' packaging of penicillin in vials, using a small, flat-bottomed, round bottle with a stopper plus an aluminum seal and an over-all aluminum dust cap, a packaging innovation for penicillin at that time. Since then, the company has developed an extensive line of pharmaceutical products, both for human and veterinary use.

The problems involved in achieving product identity are evident upon an inspection of the CSC pharmaceutical line. The penicillin preparations include Crystalline Penicillin G Sodium and Crystalline Penicillin G Potassium, each of which is marketed in 100,000-, 200,000-, 500,000- and 1,000,000-unit vials; Isotonic Solution of Sodium Chloride; Crystalline Procaine Penicillin; disposable and permanent syringes supplied with five 1-cc.-sized cartridges; Tablets Buffered Penicillin in 50,000- and 100,000-unit tablets, each in bottles of 12, 48 and 100; Penicillin Troches; Soluble Tablets; Crystalline Penicillin G Sodium in 100,000 and 200,000 unit vials, and Crystalline Penicillin G Potassium in 100,000-, 200,000- and 500,000-unit vials for veterinary use. In addition, a new preparation known as Kwell Ointment in 2-oz. and 1-lb. jars has been added recently to the pharmaceutical line.

To meet its packaging problem, Commercial Solvents adopted a basic pattern for all its ethical packages. To overcome confusion and error when variation occurs in strength and potency within a single product group, identification is secured by varying color bands employed on the packages. The bands are reversed to distinguish between the potassium and sodium salts of penicillin.

The standard design consists of a narrow band encircling the top of each package. This band contains the potency and strength of the contents. A second and wider band around the upper half lists the product. The CSC logo establishes a family relationship and ties this band to the bottom one which records the company

name and any cautionary statement required by the FDA. The colors employed are maroon and white, with soft shades of blue, gray and buff. The veterinary products employ an entirely different color scheme utilizing green and yellow.

A unique package was devised by the company for the marketing of Crystalline Penicillin G in tablet form for parenteral administration; i.e., for injection. The usual penicillin product for injection is marketed as a powder contained in 20-cc. vials. CSC was searching for a means of providing the physician with a smaller package of penicillin for parenteral use which could be carried in his emergency bag without bulkiness and without deterioration or potency loss. This was accomplished by switching from penicillin in powder form to tiny soluble tablets containing 50,000 units each with no binder or excipient. These were packaged in 2-cc. vials. Two tablets in a vial thus constituted the standard dose of 100,000 units of penicillin. The physician, without even reading the label, was able to ascertain the potency of the penicillin by merely noting the number of tablets contained in the vial. A paperboard set-up box with sleeve cover was devised in which fits a die-cut platform holding five vials in position in individual slots. This package has proved admirably suited for carrying in the emergency bag, where it requires little space and affords a means of administering aqueous solutions of penicillin at the bedside when the patient is first seen.

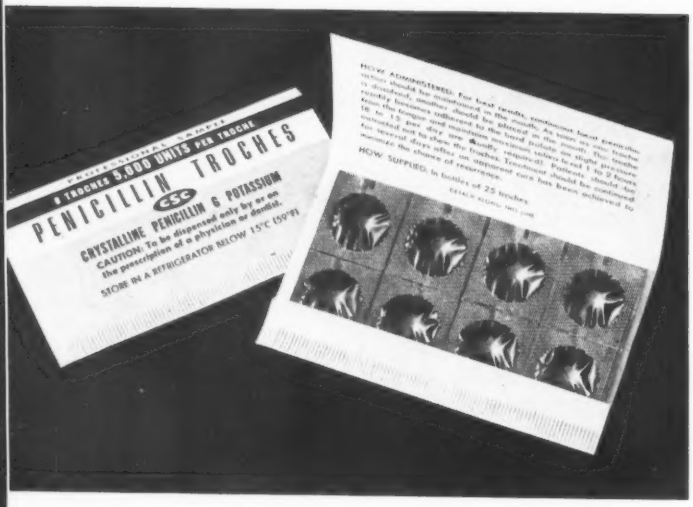
CONVENIENCE is the keynote of this new way of packaging penicillin for physician's parental administration. Each small vial contains two soluble tablets of 50,000 units each; the whole compact package can be easily and safely carried in the physician's bag, ready for use.

Another problem encountered was the packaging of soluble tablets for oral use. These tiny tablets containing 50,000 units of penicillin find a wide use in pediatrics because they easily dissolve in babies' formulas, water or other liquid. It was necessary to package these individually and economically. At the same time the package had to afford adequate protection so that the tablets would reach the consumer full strength, untouched and unbroken. Penicillin is hygroscopic and readily absorbs and retains moisture; hence the package had to be moistureproof.

The company found the answer in the use of aluminum foil. This material has a high protective quality, good eye appeal and convenience in filling, sealing and opening. Most important, it is water-vaporproof. Layers of aluminum foil between which the tablet is placed are heat sealed, forming individual pockets. All the physician has to do is rip open the foil and extract a tablet. Twenty-four of these are packed in a small telescope box.

A similar solution was arrived at when the company desired to send out professional samples of its troches. Aluminum foil strip was used to hold eight troches, four in a row. The foil was sealed in a protective paper flap or catchbook, which in appearance resembles a large matchbook. The surface design is identical with that of the standard label for troches, with the exception of the statement, "Professional Sample."

NEW TROCHES of penicillin for oral use are sampled to physicians in foil catchbook packets, individually heat sealed, making it easy to dispense one at a time. Similar packets are used as regular package for tiny tablets for infants.



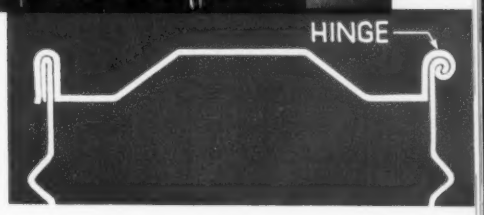
CREDITS: *Designer, Hopkins, Sorenson & Miller, Chicago. Cans, American Can Co., New York, and Continental Can Co., Inc., New York. Folding and set-up boxes, American Coating Mills, Elkhart, Ind., and Perfection Paper Package Mfg. Co., Chicago. Bottles, Owens-Illinois Glass Co., Toledo, Ohio; T. C. Wheaton Co., Millville, N. J.; Kimble Glass Co., Toledo; Anchor-Hocking Glass Corp., Lancaster, Ohio, and Hazel-Atlas Glass Co., Wheeling, W. Va. Jars, Hazel-Atlas. Rubber stoppers and inserts, The West Co., Phoenixville, Pa.; Plastic Assembled Products, Baltimore, Md., and Tompkins Rubber Co., Philadelphia. Caps, Owens-Illinois and Crown Cork & Seal Co., Baltimore. Bands, Armstrong Cork Co., Lancaster, Pa. Seals, Aluminum Seal Co., Richmond, Ind. Labels and folders, Unique Printed Products Co., Terre Haute, Ind., and Powell-Matthews Printing Co., Terre Haute. Shipping containers, Wabash Fibre Box Co., Terre Haute, and International Paper Co., Chicago.*

BETTER TOBACCO TIN

Covered hinge, snug-fit lid make first basic improvement in 40 years

OPEN AND SHUT view of new tin shows U-shaped rim of lid that fits tightly over flanged top edge of body; also, heat-sealed cellophane pouch enclosing the tobacco. Briggs brand is being pushed now; Union Leader also will use it.

"INVISIBLE" HINGE on new can is formed simply by rolling together extended flanges from body and lid. This hinge not only works more easily and more precisely, it is claimed, but it eliminates air openings in the old pin hinge.



CROSS - SECTION diagram of top of can showing a side-view section through the middle of the can with the lid closed.

For 40 years practically all pipe tobacco had been packaged in a loosely formed, unsealed paper packet inside a pocket tin with a loosely fitting pin-hinged lid, permitting easy access of air to destroy the original moisture content of the tobacco.

Now a new and efficient can has been devised by an ingenious can maker. P. Lorillard Co., was quick to take advantage of it. The can maker devised a new kind of snug-fitting lid with a continuous hinge that eliminates air openings and Lorillard combined with it an inner pouch of heat-sealed moistureproof cellophane. This new package is being introduced this month by Lorillard on its Briggs Pipe Mixture and will also be used on its Union Leader brand.

According to J. V. Necas, purchasing agent of P. Lorillard, the new type closure has been under development and test for over five years. Extensive research and experimentation by the can supplier went into the lid to make sure the sought-for goals of moisture retention and convenience were achieved.

Smokers examining the new tin will be impressed by the snug fit the lid provides and probably somewhat baffled to understand how the hinge works.

The lid is deeply drawn and formed so that a U-shaped section is created around its edge. The top edge of the body fits up into the recess of this U-section of the lid lip when the can is closed. A snug fit is insured by the double thickness of the body lip created by turning back to the outside about $1/16$ in. of the metal.

This "hem" around the top of the can body serves several purposes. It provides a more rigid edge to fit precisely the groove in the lid and it protects the user's fingers against scratching or cutting—always a hazard with the conventional sharp-edged can. It also keeps the lid from slipping off its self-made hinge.

The lid is attached to the body simply by curling an extended flange of the back side of the body around a corresponding flange on the lid. The exact manner in which this is accomplished remains the can maker's secret, but it makes a compact, precision-fit continuous hinge without the many openings that are required with the conventional pin hinge. The lid swings freely, yet the close tolerances insure a precision closure. The length of the hinge—almost the entire width of the can—helps give it precision and rigidity. The entire lid is given great rigidity by its formed cross section, so that an outside skirt little more than $1/16$ in. deep is required to provide a tight fit when closed, as against a skirt more than $1/4$ in. deep on the conventional, loose-fitting lid.

According to Mr. Necas, tests have indicated that the hinge is foolproof and wearproof well past any number of openings and closings it might undergo.

Back and front of the can appear identical at first glance, so well concealed is the new hinge. For this reason directions for (*Continued on page 240*)

PIN-UP CARTON

Window box with a hanger for attachment to display board facilitates the packaging of parts, stimulates sales

DISPLAY SPACE is at a premium in automotive wholesale houses, but Lynn board wins acceptance because it is compact and easy to keep up. Each cellophane-windowed carton filled with solderless terminals has a tab with die-cut hole by which it may be hung on the designated hook.

When Lynn Products Co. late in 1947 began to manufacture its own line of solderless terminals, after handling the distribution of a similar line for several years, better packaging was studied as a means of improving the merchandising of this product for the benefit of both wholesaler and retailer. As is so often the case with small items in the hardware and electrical field, effective packaging of the terminals required ready identification of the product for accurate selection, combined with display features which would build increased sales.

Solderless wire terminals are formed pieces of metal placed on the ends of wires to make an efficient, safe and easy contact with fixed terminals on electrical connections, switches and other electrical apparatus. The solderless part of the name designates that the wire can be pushed into a small sleeve (or tube) which is integral with the terminal itself. The tube is then squeezed down with a crimping tool, thus holding the terminal firmly at the end of the wire without need of solder.

Lynn's distribution is to wholesalers of automotive and electrical supplies. As solderless terminals are used in most auto and electrical repair shops, the quantity needed runs into many millions.

Most of the automotive supplies sold to garages and service shops are stocked warehouse-like and brought out to the customer on request. Counter space is usually limited and a display or package must be very helpful to the wholesaler in order to merit sufficient display space.

The manufacturer's package formerly distributed by Lynn was designed to function with the warehouse-like operation described above. The unit package was a small, metal-cornered, paperboard carton carrying the manufacturer's name and trademark and a space for the stock number which was rubber-stamped in. Each package contained 100 terminals.

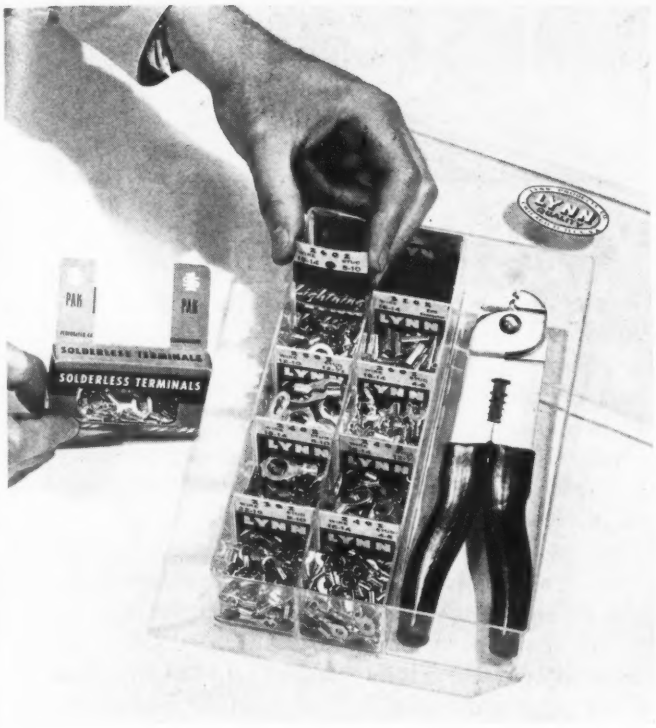
Lynn wanted its new package to overcome four major faults in the old type of package:

1. *Lack of quick product recognition.* A customer who did not know the stock number of a particular terminal had to ask the jobber to show him the catalog and refer to the specifications given. Or they both opened boxes until the needed size was found.

2. *Lack of selling force.* The old package was neat, but not too attractive and had no counter display value.

3. *Lack of uniform selling price.* There were over 25 different types of terminals and each number carried a different price. That meant that every time a sale was made the jobber had to check the price sheet to find the correct price. Mistakes were common due to the fact that the stock numbers followed no regular order.

4. *Lack of merchandising plan.* The wholesaler sold terminals only upon call from his customers, since they



PERFORATED section of carton hanger-tab, which bears stock number and size designation, can be torn out and placed with terminals in the workman's kit for permanent identification. This compartmented polystyrene box is sold as a kit and comes complete with a crimping tool.

were always hidden away on the shelf. Since many mechanics were accustomed to using the old type of soldered terminal, there were no means of calling his attention to this better method of terminal application.

"These terminals aren't much bigger than peanuts," said one of Lynn's officials, "and they should be set up to sell just as conveniently."

The elements for a good merchandising system were listed as follows:

1. A wall display board that would serve as a stock unit as well as a self merchandiser.
2. A unit package to sell for one uniform price that could be hung on the display board and which would show the product.
3. A shipping container to double as a shelf carton and as an auxiliary counter display.
4. A user kit made of metal or plastic containing a crimping tool and a large assortment of the most popular terminals.

The new packaging

A display board of Masonite was designed with rows of hooks upon which cellophane bags containing the terminals could be hung. A card was placed in each bag, each card having some display space and a stock number. At this point Lynn called in a package designer who worked out a design for the board and the cards. The unit package was named the "Dollar Pak," since it was to contain a dollar's worth of terminals. However, after some experimentation the designer felt that there were several improvements that could be made. The holes in the card and in the transparent bag sometimes twisted out of line and were hard to register when placed on the hook. Then, too, the entire weight of the package rested on the hole in the card. Also, since a one-price-unit package was proposed, some of the bags were more nearly filled than others and thus lacked uniformity in appearance when placed on the display board.

The designer then proposed using small flat cartons with cellophane windows. Experiments revealed that this type of package was much more satisfactory. The cartons took no more space than the bags. They were easy to hang up. They formed a good shipping unit.

The new package has one side extended which is used as a hanger. This part of the box contains the stock number and other vital information, which is printed on. This section is perforated on three sides so it can be torn out and used in the service kit for identification of the terminals.

The shipping and display carton then became much simpler. If cellophane bags had been used, it would have required a separator unit in the shipping carton to keep the bags in order. With the new box, five of the Dollar Paks are placed upright in the larger carton and the hangers simply folded back. A dead space was left at the back of the carton to accommodate the hanger of the rear Dollar Pak. Even with the dead space, this box was 25% less in cubic content than that necessary for the cellophane bags.

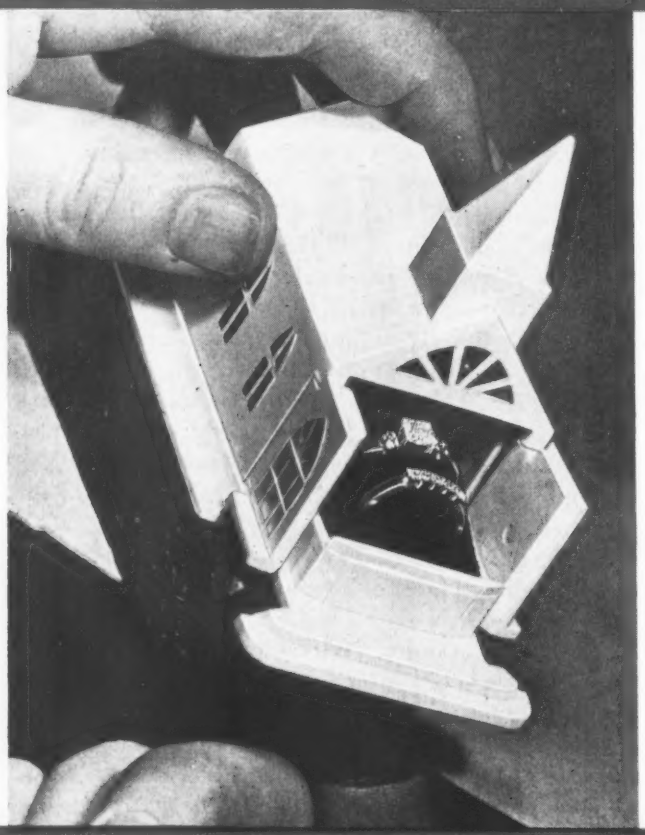
The user's kit is a molded, clear polystyrene box with a separate lid carrying a decal of the Lynn trademark. It is of rectangular shape with a compartment for the crimping tool and 10 compartments for terminals. Each compartment has a slot which accepts the identification tab that is torn from the Dollar Pak. It is sold complete with crimping tool and a popular assortment of 10 fast-selling numbers of terminals.

All terminals and insulation tubing are packaged by weight, using a precision balance scale and funnel-shaped scoops. Each terminal stock number has its own individual weight. Packaging is done in teams, with one operator weighing and the other operator pouring the terminals into the packs and closing the end. Spot checks are made at regular intervals by the supervisor to determine that weighing is absolutely accurate.

The new package and merchandising plan have been a boon to the sale of solderless terminals. At the same time they give the wholesaler better control of his stock and enable him to spend less time on each sale and make more profit.

CREDITS: *Package design, Amstutz-Hollander, Chicago. Color plates, Blue Ridge Colorplate Co., Inc., Chicago. Dollar Paks and counter display cartons, Justrite Box & Label Co., Inc., Chicago. Display board, Woodall Industries, Inc., Chicago. Plastic box, Minnesota Plastics Corp., St. Paul, Minn*

MP DESIGN



RINGS IN A CHAPEL

What could be a more appropriate setting for a diamond engagement ring and wedding band matched set than this "chapel" box made of white cellulose acetate?

A presentation package, the chapel box is also an effective display container. Simply by drawing the chapel steps forward, the doors open and the velvet-covered ring pad emerges.

The steps, doors and miniature building complete with steeple are made in five separate parts on a cam-action mold with all projections for the mechanical performance molded into the parts. The decorations which form the windows on the sides and door are hot-gold stamped prior to assembling the parts. An idea of how small the box is can be gained from the photo.

CREDITS: *Container made by Designs, Inc., North Bergen, N. J., for Melmar, Inc., Hoboken, N. J., using Tennessee-Eastman Tenite 1 cellulose acetate.*

SMART BOXES FOR MEN

Masculine good taste is reflected simply and elegantly in the new plastic Hickok jewelry cases which have replaced the old blue plush boxes. Latex impregnated bonded cellulose fibre, with shredded leather, used as trim and tortoise shell colored polystyrene combine two different textural qualities pleasing to the eye and touch.

The new boxes are irregularly shaped with front slightly thicker than the back. Curved edges and recessed lid give the cases an approachable feeling.

The Hickok name is stamped only on the satin lining of the metal-hinged lid so that when the inner satin cushion is removed the boxes may be re-used as stud or cigarette cases.

CREDITS: *Design, Design Associates, New York. Molded and assembled by Modern Plastics Corp., Benton Harbor, Mich., using Monsanto Chemical Co. polystyrene. Trim material, Leatherlen, Leonard Freedman & Sons, New York.*

HISTORIES

A NEW COSMETIC LOOK

The dainty new Co-ets package, done in feminine shades of pink and gray, is an interesting example of how sales copy and illustrative sketches of product use can be made a part of an over-all decorative design.

Each side of the almost square carton has two patches shaped like the fluted cotton squares it contains. In one the name is printed in a novel way to give the effect of hyphenating it without actually doing so—"Co" in pink and "ets" in the dark gray. In the second patch use of product in the nursery, beauty shop or bedroom is illustrated. The two colors are alternated on the sides in the background. The two-colored name on the carton top is centered in a perforated section which forms the opening. An informal, personal feeling is conveyed by use of brush-type lettering.

CREDITS: *Design, Commercial Illustrators, Inc., New York. Cartons, Alford Cartons, Ridgefield, N. J.*

BEER LABEL ELEGANCE

The redesign of Peter Hand Brewery Co.'s Meister Brau labels shows a sharp break away from the ornate patterns long followed in beer-bottle labeling. Each design element of these impressive new foil labels was chosen for a reason. Rich gold and white symbolize product superiority. Combining these colors to form halves of a distinctive hexagon gave the label recognition value as a trademark. The name, printed in dark brown, was split into two lines allowing the use of larger, more legible type. On the export bottle a white neck label placed high under the cap—itself printed in gold and white—created the illusion of a larger bottle. The basic design has been extended to cartons, signs and trucks.

CREDITS: *Design, Raymond Loewy Associates, Chicago. Label printing and aluminum foil, Reynolds Metals Co., Richmond, Va. Bottles, Owens-Illinois Glass Co., Toledo, Ohio. Cans, American Can Co., New York. Caps, Crown Cork & Seal Co., Baltimore.*

PRE-PACKAGING CONCLUSIONS

Three-year study of American Stores Co.'s centralized operation yields the most comprehensive data yet on the costs and economies of pre-packaging produce for self service. By DONALD R. STOKES*

Economic possibilities in retailing pre-packaged fresh fruits and vegetables have been explored by the United States Department of Agriculture in cooperation with the American Stores Co. (Kearny, N. J.) since 1945. This investigation included many varieties and kinds of fresh fruits and vegetables pre-packaged in various types of packages by different methods and in various size units. Different types of machinery and equipment were used in this experiment. Packaging by hand in the stores as well as in a centralized warehouse was given a trial. In some stores only pre-packaged produce was displayed and in others pre-packaged produce was displayed along with similar produce in bulk.

* Agricultural Economist, Marketing Research Branch, Production and Marketing Administration, U. S. Dept. of Agriculture. This study was undertaken as a project of the Bureau of Agricultural Economics while the author was a member of its staff.

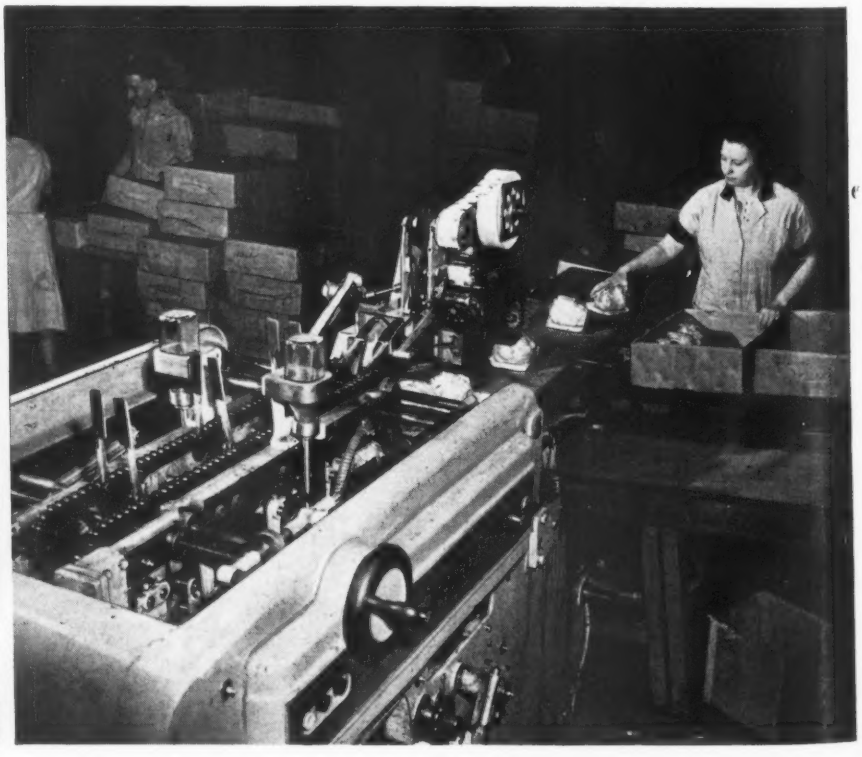
Pre-packaged produce was retailed both with and without refrigeration. Produce departments were operated on a 100% self-service basis and with varying degrees of self service. Numerous other variations in packaging and in selling methods were tried in the course of the study.

Eventually, however, the study narrowed down to a relatively short range of pre-packaged items and the packaging was done primarily at the warehouse. The packaged produce was delivered in non-refrigerated trucks along with bulk produce to retail stores which were equipped with mechanically refrigerated display cases. This narrowing to a short range of products took place as the feasibility of certain practices appeared more promising.

Results of this experiment indicate that it is economi-

ONE OF LINES at Kearny, N. J., where produce is packaged for 25 stores. Here head lettuce is trimmed and sent to wrapping machine on lower center belt; upper and side belts carry rejects in opposite direction.

WRAPPING MACHINE (Universal 4) here wraps and heat seals cellophane around head lettuce. One of two similar machines which handle all of the American Stores' wrapped fresh produce packages, this one has auxiliary glue pots for use on acetate material. Roll-type thermoplastic labels are applied to the tops of all the produce packages.



cally feasible to extend the principles of self-service retailing to many fresh fruits and vegetables by packaging them before they are displayed at retail. The extent to which this practice may prove both efficient and profitable depends largely upon its integration in the over-all merchandising program followed by the retailer and particularly upon the prevalence of these conditions: (1) pre-packaging only those commodities in which a sizable share of the additional packaging costs can be offset by savings in retail labor or by lower waste and spoilage losses, or which involve costs for additional services that are willingly borne by consumers; (2) purchasing pre-packaged commodities which can be most efficiently packaged by source or terminal pre-packagers; (3) using pricing methods and practices that implement self servicing of bulk items; (4) following a price policy that yields optimum rates of turnover; (5) using management and personnel policies that are likely to assure maximum labor efficiency and (6) use of adequate refrigeration.

It would not seem likely at this time that a complete line of fresh fruits and vegetables could be pre-packaged and merchandised under the same price policies as are practiced for bulk produce and at the same time yield a comparable net profit.

In general, prices charged for produce pre-packaged by the American Stores Co. were the same as for similar produce retailed in bulk. More research attention should probably be given to the problem of ascertaining the price premiums that can be obtained for certain pre-packaged items.

The produce departments in three medium-sized supermarkets were equipped for distribution of pre-packaged produce early in December, 1945. From time to time other stores were converted or new stores were opened which were equipped to distribute pre-packaged, refrigerated, fresh produce. The American Stores Co. now has a total of 25 of these "pre-package stores"[1] operating in this experiment in the northern part of New Jersey.

Not all of the pre-packaged commodities handled by these stores were packaged by American Stores. Spinach, celery, soup greens, cole slaw, tomatoes, lemons, limes, apples and other items were often bought from specialized repackers, but generally 30 to 40% of the produce handled in these stores was pre-packaged by the company; 10 to 20% was bought from repackers and the remainder was sold in bulk.

Centralized warehouse packaging

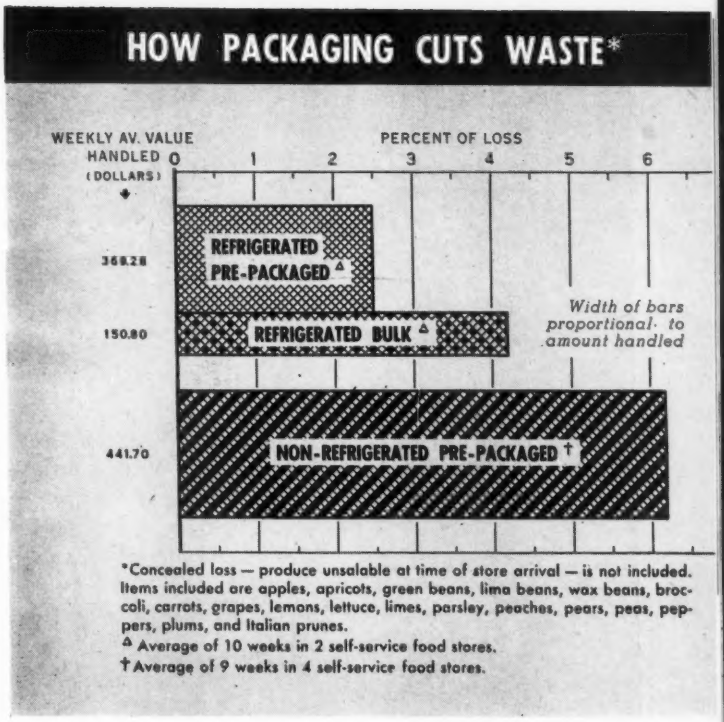
Pre-packaging in the warehouse generally follows this procedure: The fresh produce is taken from the warehouse cold-storage box in the morning and placed on a conveyor where it is cleaned, trimmed, graded and packed into various sizes and types of paperboard trays holding about 1 to 2 lbs. of produce. These trays move forward on revolving belts into a packaging machine which automatically wraps and heat seals transparent flexible film around them.

[This report takes into consideration cellophane only. According to Paul Cupp, in charge of pre-packaging for American Stores Co., the operation currently is using cellulose acetate film regularly on tomatoes, lemons and a few other items and expects later to use acetate on peaches, plums and cherries. All data in this article, however, should be considered as applicable only to cellophane overwraps. Ed.]

A label showing the brand name of the produce, a description of the contents, the price and a code number indicating the date of packaging is automatically placed upon each package. At this point the packages are packed into shipping containers. They then move forward on rollers into the cold-storage box, where they are assembled into lots for delivery to the pre-package stores.

Another packaging line is used for the packaging of tomatoes, lemons, limes and other items into narrow trays or "boats" in much the same way. Still another line is used for commodities packed in film bags which are placed on a machine with an automatic conveyor and heat-sealing device that closes the bag and attaches the label.

The finished packages are then placed into shipping containers and moved into the cold-storage box. Other


HOW PACKAGING CUTS WASTE*
WEEKLY AV. VALUE HANDLED (DOLLARS)
PERCENT OF LOSS
0
1
2
3
4
5
6
368.28
150.80
441.70
REFRIGERATED PRE-PACKAGED Δ
REFRIGERATED BULK Δ
NON-REFRIGERATED PRE-PACKAGED †
Width of bars proportional to amount handled
*Concealed loss — produce unsalable at time of store arrival — is not included. Items included are apples, apricots, green beans, lima beans, wax beans, broccoli, carrots, grapes, lemons, lettuce, limes, parsley, peaches, pears, peas, peppers, plums, and Italian prunes.
Δ Average of 10 weeks in 2 self-service food stores.
† Average of 9 weeks in 4 self-service food stores.

AVERAGE WASTE and spoilage of 18 fresh fruits and vegetables retailed under various conditions in Northern New Jersey self-service stores from June to November, 1946. Chart indicates loss on refrigerated packaged produce was only 2.5%, as against 4.2% for refrigerated non-packaged and 6.2% for non-refrigerated non-packaged.

[1] The term "pre-package stores" as used in this report refers to the stores in which the pre-packaged produce was marketed. These stores were equipped with mechanical refrigerator display cases. The term "bulk stores" refers to stores in which the produce was handled in bulk in the conventional manner. These "bulk stores" were not equipped with refrigeration facilities. See charts for comparison of waste and spoilage losses in these two types of stores.

APPLES and similar fruit are taken from growers' crates, inspected and arranged six to a tray. Trays move on conveyor to wrapping machine.

specialized machinery and equipment are used for bagging such items as onions, potatoes and oranges and for husking and packaging sweet corn.

As the project is of an experimental nature and the packaging equipment and various techniques used may soon become obsolete, detailed description of the procedures and machinery used has been omitted.

Commodities packaged

In this project the selection of commodities for packaging depended on the answers to the following questions: (1) Would packaging the product lower waste and spoilage costs? (2) Would the packaging enable the item to be sold by self service? (3) How would packaging affect sales volume of the product?

During the early part of the experiment, nearly all the fresh produce items carried by the stores were pre-packaged.

Even such items as avocados and pineapples were wrapped in transparent flexible film. But pre-packaging of several items was quickly discontinued and soon only those items were pre-packaged for which substantial savings in the costs of waste and spoilage or in servicing customers were possible.

This was one of the first important decisions made in the experiment. Reports of earlier experiments had indicated that every item in the store except oranges, grapefruit and potatoes could be successfully pre-packaged.[2] But it soon became apparent that packaging of many items with the materials available at the time of this study was uneconomical and in some instances was actually harmful to the produce.

Fruits that were pre-packaged included apples, apricots, cherries, cranberries, grapes, lemons, limes, mixed fruits, nectarines, oranges, peaches, pears, pineapples, plums, prunes and tangerines. Vegetables that were pre-packaged included artichokes, asparagus, green beans, broccoli, brussels sprouts, carrots, cauliflower, celery, lettuce, mushrooms, onions, parsley, peppers, potatoes, radishes, scallions, tomatoes and watercress.

The following commodities were soon eliminated from the list of items most suitable for pre-packaging: pineapples, artichokes, asparagus, broccoli, cauliflower, radishes, scallions and watercress. Packaging of pineapples and artichokes in water-vaporproof film was found to be uneconomical and harmful to the produce as well. Asparagus, broccoli, radishes, scallions and watercress are normally bunched; consequently little additional advantage could be gained for these items through extension of self service. Cauliflower can easily be sold by the head with the price marked on the butt and so the package does little to make this item self service. Of course further research and experience may prove that these more-or-less borderline commodities can be packaged advantageously.

"Kitchen servicing," such as segmenting cauliflower heads, shredding cabbage or shelling peas and lima beans, was done to only a limited extent. In this project primary attention was given to research in pre-packaging commodities which necessitated little or no price premium. Sweet corn, however, was pre-packaged and retailed successfully at a slightly higher price.

Pre-packaging fresh produce that requires considerable kitchen servicing before it is retailed may assume more importance when the physiological and distribution problems involved have been subjected to further research. The extent to which it will probably be done at the source or at the terminal point cannot now be predicted. The economic advantages tend to point toward source packaging, but perishability is a limitation.

Cost of materials and labor

The cost of packaging materials varies considerably by type and size of package, kind of material, etc. It averages around 1.5 cents per retail unit of 1 to 2 lbs. of produce.

Obviously, larger trays cost more than small trays or U-boards and it takes more film to overwrap large than small packages. Some films are more expensive than others. Differences in the quality and construction of bags means considerable variation in cost. The average charge for material per unit includes an allowance for costs of shipping containers based on an average of at least three trips between the warehouse and the retail store.

The cost of packaging labor in the warehouse usually covers the assembling of the bulk produce in the pre-packaging room; uncrating the merchandise and placing it upon the conveyor line; sorting, trimming and

[2] See "Packaged Produce .... the Columbus Experiment," MODERN PACKAGING, July, 1945, p. 89.

otherwise preparing the commodity for packaging; opening trays or bags and placing the produce in the containers; weighing the contents to assure the correct net weight; placing the pre-packaged units into shipping containers on another conveyor for movement into the cold-storage warehouse and selecting the shipping containers to make up the orders of the retail stores. Aside from the direct labor required on the production line, the services of a specialized supervisor were used in this study to plan the production schedule and direct the activities of the packaging operations.

The cost of labor to package produce varies considerably by type of produce and kind of package, but the average cost was around 2 cents per unit.

Labor costs per package vary widely among the commodities. Lemons, tomatoes and lettuce, for example, can be packaged relatively more efficiently than green beans, broccoli and cauliflower. Items such as lemons involve a relatively low labor cost per package as they do not require trimming or other conditioning, are readily placed in the trays and are easily handled throughout the production line.

On the other hand, experience showed that items like green beans have a high labor cost per package because they usually have to be sorted to some extent, are more awkward to handle and when tray packed they have to be "lined up" to get the proper overwrapping of the transparent film.

Time studies to learn the relative cost of pre-packaging various commodities were made frequently. As a result, techniques in the packaging of some items were changed and packaging of broccoli, cauliflower and some other items was eventually discontinued, but usually means of improving the production techniques were sought.

For several months broccoli was pre-packaged by cutting off the stems, laying the stems in the bottom of the tray and placing the heads on top; the product was then attractive and a relatively good mover in the stores, but it was doubtful whether the additional sales offset the added costs of packaging. No premium was charged for the packaged broccoli and as bunched broccoli is already a self-service item, the cost of packaging at the retail level appeared to be unwarranted. Prospective improvements in machinery, packaging techniques and methods, however, may make the packaging of many such items profitable in the future.

The cost of labor for packaging specified commodities as measured by spot checks is given in an accompanying table.

Consideration regarding packaging costs

The sample observations shown here may not reflect what the average packaging costs for these items would be over a much longer period. Other variables such as machinery breakdowns and experimental use of certain machinery, packing methods, etc., may make the overall average production costs somewhat higher than those usually observed in short surveys.

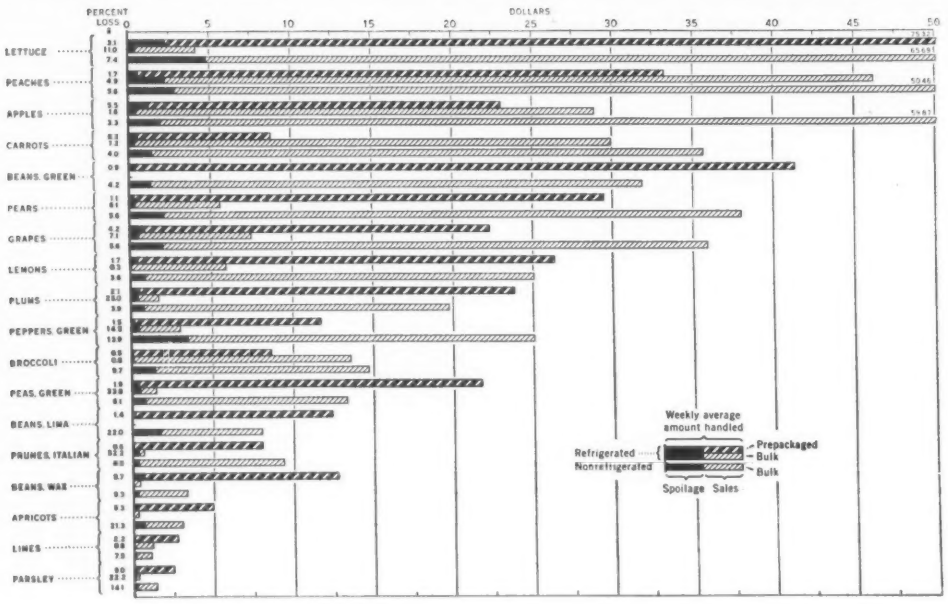
Cost of labor per package is very important in determining which items can be economically pre-packaged, but it is not the only consideration. The relation of the cost of packaging to the retail price of the package and to the gross margin is equally important. For instance, the packaging of cherries at a labor cost of around 2 cents for a 49-cent package, or about 4% of the sales dollar, appears to be more practical than pre-packaging a relatively low-priced commodity like carrots. The absolute cost for packaging carrots is about the same, but it is much greater percentagewise. The relation of the cost of packaging to the normal gross margin available when the commodity is handled in

COST OF LABOR FOR PACKAGING

Packaging Labor Costs Per Unit and as a Percentage of Retail Price for Specified Items, American Stores Co., Kearny, N. J., 1946

Date packaged	*Item*	*Unit*	*Labor cost per package*	*Labor cost as % of retail price*
			(¢)	(%)
Sept. 24	Apples	5's	1.6	6
Oct. 31	Apples	4's	1.6	8
June 20	Apricots	1 lb.	1.6	6
Sept. 24	Beans, green	1 lb.	4.1	27
Sept. 25	Beans, green	1 lb.	3.2	21
Oct. 30	Beans, green	1 lb.	2.8	19
Nov. 6	Beans, green	1 lb.	3.7	15
Sept. 24	Beans, lima	1 lb.	1.5	8
Oct. 30	Beans, lima	1 lb.	1.7	9
June 20	Beans, wax	1 lb.	2.0	12
June 20	Carrots	1 lb.	2.0	17
Oct. 31	Carrots	2 bunches	1.8	9
Nov. 6	Carrots	2 bunches	2.3	12
June 24	Cherries	1 lb.	1.2	3
June 20	Celery hearts	2 bunches	1.4	6
Sept. 24	Grapes, red	1 lb.	1.4	7
Sept. 24	Grapes, white	1 lb. 2 ozs.	1.5	5
Nov. 5	Lemons	6's	1.5	6
Sept. 24	Lettuce	Each	1.5	9
Oct. 30	Lettuce	Each	1.2	8
Nov. 6	Lettuce	Each	1.2	6
Oct. 30	Mixed fruit	5's	3.0	10
Nov. 5	Mixed fruit	5's	2.0	7
Sept. 24	Oranges	5-lb. bag	2.4	3
June 20	Oranges	8 pcs.	1.8	7
June 20	Onions	2 lbs.	1.0	6
Nov. 5	Peas	1 lb.	1.1	4
Sept. 24	Peaches	1 lb. 15 ozs.	1.5	8
Sept. 25	Peaches	1 lb. 15 ozs.	1.2	7
Sept. 24	Pears	4's	1.2	6
Oct. 30	Pears	4's	1.6	6
Nov. 5	Pears	4's	1.0	4
Sept. 24	Peppers	1 lb.	2.1	21
Oct. 31	Peppers	3's	1.6	10
Nov. 6	Peppers	3's	1.5	9
June 20	Plums	1 lb.	2.7	6
June 21	Plums	1 lb.	3.3	9
Sept. 24	Prunes, Italian	2 lbs.	1.5	5
Sept. 25	Prunes, Italian	2 lbs.	1.6	6

SPOILAGE IN RELATION TO DOLLAR SALES



COMPARISON of losses under various conditions—packaged and non-packaged, refrigerated and non-refrigerated—is given in percentages of dollar sales. These are average weekly losses on garbage and markdown only; concealed loss—produce unsalable on arrival—is not included. Data are averages of 10 store weeks in pre-packaged, refrigerated stores and average of nine store weeks in bulk, non-refrigerated stores, observed from June to November, 1946.

bulk and to the relative salability of the commodity when sold in bulk and pre-packaged is the important consideration. It may be profitable for a retailer to pre-package items when they are retailing at high prices and not profitable when the price is lower. The cost of packaging is relatively rigid. Many items that can be pre-packaged profitably at present prices might not yield a profit if pre-packaged during periods of lower prices.

Even though some items such as string beans are relatively costly to pre-package, a retailer should weigh the extra costs against the labor required to retail these items in bulk. Time studies made in retail stores indicated that the cost of retail labor in bagging, weighing and pricing items like green beans in the store often exceeded centralized packaging labor costs.

The cost of labor for packaging is influenced to a large extent by the efficiency of the machinery which is used.

Improvements in design of packaging machinery, conveyor systems, etc., will undoubtedly help to lower these production costs. Changing over from one commodity to another often means some lost time and motion. The packaging of eight items on eight lines would, for example, be much more efficient than pre-packaging eight items on one line. Because of the experimental nature of this project, the costs involved are probably still high in relation to potential costs under greater volume production.

The quality of the labor, the rate of labor turnover and the general wage level for unskilled labor also contribute decidedly to labor costs. Labor productivity should increase with technological advances in machinery and equipment and with improved skills gained through practice on the job.

An experimental project of this nature usually involves higher initial costs and lower efficiency than is possible after know-how and volume are established.

Losses through waste and spoilage

The additional costs of packaging, including materials and labor, should generally be met through reductions of waste and spoilage[3] and through reduced labor costs in the retail stores. The average rate of spoilage on pre-packaged refrigerated items was 2.5% of the value of the produce handled, in comparison with an average rate of 6.2% of the value of the produce handled in the bulk non-refrigerated stores.

Many of the commodities that were pre-packaged were also sold in bulk in the so-called pre-package stores. The average spoilage rate on these items handled in bulk in pre-package stores was 4.2%. Pre-packaged commodities that incurred high spoilage losses in the pre-package stores were carrots, parsley, waxed beans, apples, apricots and grapes, all of which had losses in excess of 4%. Four of these items with high percentage loss—apricots, grapes, parsley and waxed beans—had even higher spoilage losses in the bulk non-refrigerated stores. Two of the items—carrots and apples—were found to have higher spoilage losses in the pre-package stores than in the bulk stores, the chief reason being the relatively low volume of movement in the pre-packaged form because of poor consumer acceptance. It was noted that three to four times as many carrots were sold in fresh bunches as in packages in the pre-package stores.

Early in the experiment it was discovered that consumers hesitated to buy pre-packaged, topped, fresh

[3] See "Produce Wastage" by the same author, MODERN PACKAGING, Oct., 1947, p. 120.

carrots—perhaps fearing that they were not fresh. Consequently, the pre-package stores were instructed to handle both pre-packaged and bulk bunch fresh carrots so comparisons could be observed. During the first full year of this experiment, 1946, the consumer acceptance was better for bunched fresh carrots than for packaged fresh carrots. As more and more consumers tried the packaged carrots, this relationship changed, so that now more consumers shopping these stores buy the packaged carrots than buy the others. Somewhat the same situation was found with apples.

Retail labor costs

It would be expected that introducing pre-packaged produce into self-service food stores would mean relatively lower costs of retail labor. This was borne out to some extent in the study and it is believed that further efficiencies in retail labor, as well as in preventing waste and spoilage, may be found. Early in this experiment, when a large proportion of produce handled in the so-called pre-package stores was pre-packaged, the sales per man-hour approached $20 in value, compared with approximately $10 sales per man-hour in the conventional bulk stores.

When fewer items were pre-packaged because of high costs, the proportion of bulk-produce sales in these pre-package stores increased, accompanied by a drop in the value of sales per man-hour. From June to November, when observations were being made in two pre-package stores and four bulk stores, the average value of sales per man-hour was $13.80 in the pre-package stores and $10.80 in the bulk stores. Some of the pre-packaging was done in the stores during this time, but since then more items have been pre-packaged in the warehouse, including such volume items as potatoes. This decreased the work of the stores, enabling the sales per man-hour to increase. The expected value of sales per man-hour in pre-package stores is now about $16 and it is hoped that this rate may be increased through further efficiencies.

Even though additional items were pre-packaged before delivery to the stores, increased efficiences were not reflected in the retail operation. Retail labor costs, as a percentage of dollar sales, have not shown the reductions expected. When very close administrative attention was being paid to the wage percentage, a full 3% saving was found in the pre-package stores in comparison with bulk-store performance. As recently as February, 1948, the average produce-wage percentage of dollar sales in the 24 pre-package stores was 5.2 in comparison with 7.0 in 82 bulk stores. Both of these wage percentages exclude check-out labor.

It is apparent, then, that a saving of less than 2% was being made in retail labor costs at that time through pre-packaging in these stores.

During seven weeks in the summer of 1946, observations were made in two pre-package stores and four bulk stores by Department of Agriculture representatives on the time entirely lost by retail produce clerks during intervals between waiting upon customers. Over this period, the average weekly man-hours of complete non-productivity while waiting for trade were 1.5 per week in the pre-package stores compared with 7.9 in bulk stores. This lost time is reflected in the higher wage percentage found in the bulk stores.

Relative profit, pre-packaged and bulk

As the cost of the produce that was pre-packaged at the centralized point in the warehouse was the same as the cost of the produce delivered to the bulk stores, it is easy to compare the net realized profit to the retailer in merchandising pre-packaged and bulk produce. As a general rule, a retailer is primarily interested in making a net profit on the store operations as a whole and seldom finds it necessary to calculate costs and net profits by various commodities. The average retailer, of course, knows his gross margin on various commodities and grocery items, but because of the many joint costs involved, he does not know the absolute net profit.

For this reason, a comparison of the percentage net profit has been made between produce departments from which pre-packaged produce was sold and produce departments handling only bulk produce. As the policy of charging no higher price for the pre-packaged produce was generally followed, the original gross margin was always lower in the produce departments of the pre-package stores than in the bulk stores. The original gross margin (before waste and spoilage losses) for produce handled in the pre-package stores averaged around 4% less than in the bulk stores. The final gross margin, after costs of waste and spoilage and unseen shrinkage were accounted for, has run around 2% lower

HEAT-SEAL LABEL is applied as packages emerge from machine and is firmed in place by revolving brush acting against resilient conveyor belt, accommodating a wide range of packaging heights. American Stores' two machines are operated at 35 to 40 packages a minute. It is usually only 5 minutes from head of line until produce is packaged and back in refrigeration.

in the pre-package stores than in the bulk stores. This 2% difference has been largely offset by increased labor efficiency in the store, so the net profit in the pre-package stores, as a percentage of the sales dollar, has averaged during recent months very close to that realized in the bulk stores. For example, during February, 1948, the net profit realized in the produce department of the 25 pre-package stores averaged only 0.04% less than it did in 82 bulk-produce departments.

In arriving at this comparison of net profits, additional costs involved in pre-packaging produce—including packaging materials, packaging labor, warehousing, refrigeration and supervision—have been charged to the pre-packaged produce. Costs of depreciation for packaging machinery were not included because much of this equipment was custom built and the actual cost was too high to be a realistic indication of long-time costs. Informed trade estimates of the cost of depreciation and maintenance of packaging machinery and equipment range from $^3/_4$ to $1^1/_4$% of the retail value of the produce packaged.

Consumer acceptance

Consumer acceptance of pre-packaged produce is difficult to measure. The consumer opinion surveys that have been made indicate that consumers in general prefer produce in package form to produce in bulk form of comparable quality and price. Most of the 25 stores that had been built or converted to handle pre-packaged produce have had greater sales of fresh fruits and vegetables than similar stores selling bulk produce, but it is not known whether the pre-packaged produce was the direct cause of the larger sales volume. The produce distribution rate (produce sales as a per cent of total store sales) averaged about 1% higher in the pre-package stores than in the bulk stores, indicating that consumers may in general prefer to buy pre-packaged produce.

When comparing the commodity distribution rates (sales of specified commodities as a percentage of total produce sales), it is apparent that consumers may prefer some commodities pre-packaged and some commodities in bulk form. The example regarding carrots, cited previously, is pertinent here. It illustrates the hesitancy of consumers to change well-established buying habits.

The commodity distribution rate for apples, carrots, grapes, lettuce, pears and peppers was lower in the pre-package stores than in the bulk stores. These six commodities accounted for 16.4% of the average produce sales in the pre-package stores in comparison with 21.3% in the bulk stores. The remaining 12 items all show relatively higher commodity distribution rates in the pre-package stores than in the bulk stores. The total sales of these 12 commodities in the pre-package stores, including sales of both pre-packaged and bulk produce, accounted for 17.8% of the total produce handled, compared with 14.9% of the total produce in the bulk stores.

These ratios are not accurate measures of consumer acceptance, although they were calculated during the experiment to provide information pointing toward making improvements or alterations in packaging methods to improve the relative sales of individual items.

Many other factors influence commodity distribution rates, including the number of items offered for sale in the store and the store management. It is safe to conclude, however, that if some commodities show definitely lower relative sales in pre-package stores than in bulk stores, the consumer acceptance is not entirely successful and the causes and remedies should be ascertained.

Conclusions

It is apparent that pre-packaging is not going to revolutionize the produce industry, although there are many indications that more and more items will be consumer packaged either at source of production or in the terminal markets. This movement may be interrupted from time to time by physiological and economic difficulties, but the long-time trend toward more consumer packaging appears to be inevitable. Consumers in general seem to like pre-packaged foods; consequently, many retailers are interested in extending the principles of self service to their fresh fruit and vegetable departments.

Pre-packaging and refrigeration appear to be effective in reducing losses due to waste and spoilage and in lowering the costs of servicing customers. They often contribute toward increasing the quality of the product that reaches the consumers.

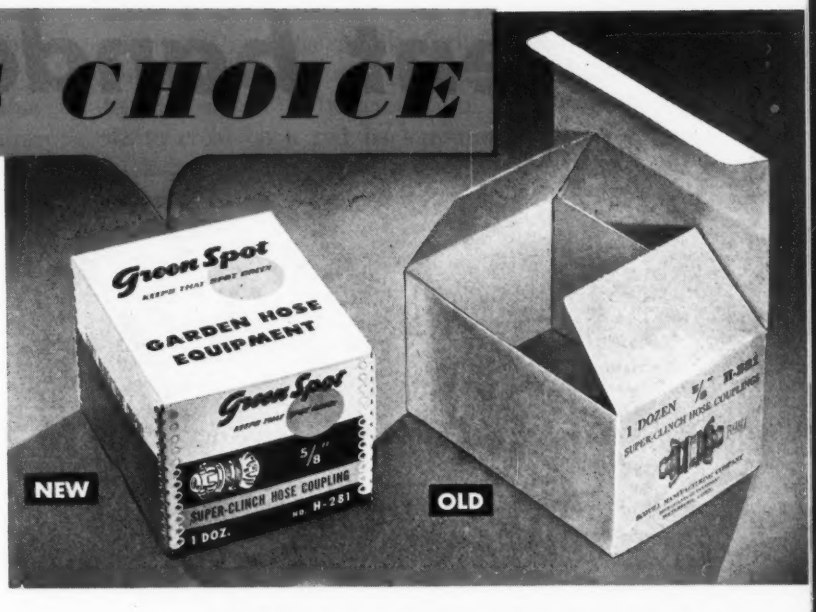
The ultimate solutions of such problems as the most efficient means of distributing pre-packaged produce, the best point of packaging and the trade and consumer acceptance of various pre-packaged commodities will be generally developed by broader industry experience.

Donald R. Stokes

THE AUTHOR, through his Department of Agriculture studies occupying most of the last five years, is probably the nation's leading authority on the economics of produce pre-packaging. The long-awaited report presented herewith is the sequel to his preliminary report on "Produce Wastage," which appeared in MODERN PACKAGING in October, 1947. Having shown, item by item, what losses the retailer is suffering in conventional methods of handling produce, Mr. Stokes now examines the cost of pre-packaging and its possibilities in reducing waste and spoilage. Occupying nearly three years of research, this is the most complete study ever made on this subject. The unbiased findings reported in this paper are certain to have a powerfully influencing effect on the further development of fresh produce pre-packaging.

DEALER'S CHOICE

Hardware retailers told Scovill Mfg. Co. just what they wanted and this striking change in their packaging resulted



GREEN SPOT is both the trade name and the trademark as Scovill switches to colorful, coordinated packages for line of garden hose fittings, replacing drab chipboard carton totally lacking in appeal. New colors are yellow, green and black, with metal edges enameled yellow.

Among the many products of the Scovill Mfg. Co., Waterbury, Conn., is a line of garden hose equipment which includes such standard items as lawn sprinklers, hose nozzles, couplings and menders, as well as specially designed sprays, nozzles and connector couplings. Manufacture of the line was stopped before the war when Scovill—one of the world's largest manufacturers of brass products—converted to production of military goods.

Preparing for the time when the line could be made again, surveys were made to determine what hardware retailers wanted in a package and in display aids.

The surveys disclosed that a new package should be designed to meet a number of specifications: (1) it should be attractive enough to use as a selling aid above the counter; (2) each item of the 30 or so in the line should be quickly and easily identified in the box without having to open it; (3) the design should be adaptable to boxes of various sizes and shapes so they could be used together in a coordinated display and (4) the box should be strong and durable enough to withstand rough handling in transit and still remain attractive.

With the information supplied by these surveys, Scovill's packaging engineers began work on a box to be ready in time for the 1948 summer selling season. Two-piece, metal-edge, paperboard boxes printed in three colors were chosen to replace the completely drab one-piece kraft cartons previously used.

As a keynote for the merchandising program, the line is now named "Green Spot." Distinctive solid green circles are the focal point of the new box cover design. All the lettering is printed in glossy black inks. The slogan is placed so that the last two words fall inside the identifying green circle. Background for the cover and the upper half of the sides is bright yellow. Each end carries a reverse line drawing of the item and its number, size and quantity in a black band. Below the drawing is an arrow band of green with the item name, printed in black, large enough to be seen easily on shelves.

A novel feature is that the inside of the base is printed solid green, making an effective selling carton by inverting the cover and setting the base inside it.

Approximately 50 sizes of boxes are used to package the entire line of 30 items. Since some of the items—couplings for example—are made in three sizes, the end panel designs of all box sizes have been coordinated so that they can be used for displays of the complete line.

Box blanks are supplied to Scovill and set up by machine in the company's packing rooms. The metal clamps are enameled yellow to match the cover.

The reception they are getting indicates that the new boxes tie in perfectly with the complete merchandising program Scovill has inaugurated.

CREDITS: *Boxes, National Metal Edge Box Co., Philadelphia, Pa. Display, Rex Window Advertising Co., Inc., New York.*

DEALERS ASKED for this simple backboard display, around which products could be grouped in open boxes. Inside of box base is bright green.

5-cent bandages

New equipment installed at Gotham Aseptic Laboratory makes adhesive bandages, wraps and packages them in one high-speed operation, providing pack of six for a nickel

With rising prices, the 5-and-10's have found that practically the only five-cent tag left in the store is their somewhat obsolescent nick-name. Gotham Aseptic Laboratory Co., Inc., Long Island City, believes there will be welcome acceptance, therefore, for its new Gotham Stickrite adhesive bandage package which, despite increased costs of all component materials, can still be produced to sell for a nickel.

This merchandising advantage has been achieved, according to the producers of the bandages, only by a complete redesign of the package and the development of high-speed, labor-saving equipment to make the bandages, wrap each one individually in glassine and overwrap six of them in one fully automatic operation at the rate of 144 bandages per minute.

The machinery, said to be unique in the adhesive bandage field, was designed and built by Paul I. Rogers, president and chief engineer of Gotham, who several years ago was responsible for devising an unusually economic and efficient method of sealing cartons and sterilizing bandages simultaneously (see MODERN PACKAGING, May, 1944, p. 124).

Former package

The new packaging problem was complicated by the fact that changes in U. S. Pharmacopoeia require each adhesive bandage strip to be individually wrapped. Gotham's former package—a flat paperboard folder envelope containing a series of eight unwrapped, attached strips—had gained wide acceptance in the chain store field. In redesigning this package, the company wished to retain as many of the successful features of the old package as possible—flat display surface, recognition value and colorful appearance.

To preserve these features and at the same time individually wrap each of the adhesive bandages would not have been difficult had it not been Gotham's desire to put out a package that could be sold for a nickel. Present high prices of gauze, crinoline backing, ingredients of the adhesive mass, as well as packaging supplies precluded any savings in material costs. The only possible places for reducing costs were in the making of the outside package and in the labor required to put the bandage strips in the package.

Mr. Rogers set about to redesign a package that would overcome all obstacles.

The end result is a completely sealed, tamperproof packet made of two facing sheets of printed, cast-coated, high finish paper glued on all four sides and perforated down the middle of one side for easy tearing. Inside are glued six strips of the adhesive bandages, each one individually wrapped in glassine.

Automatic operation

Both bandages and complete packages are made in one automatic operation on machinery (patents pending) completely designed and built in the company's own machine shop. All elements are fed into this machine in roll form—gauze, crinoline backing, adhesive tape, glassine and two sheets of the outside packaging paper. Following assembly, the bandages are cut to length, individually wrapped in glassine, spaced in units of six and placed between the two outside sheets of paper which form the top and bottom of the outside package. By means of electric-eye control, the machine cuts the printed rolls in exact lengths to make the complete outside package with reading matter centered on the top of each package. A continuous design for the reverse perforated side of the package eliminates the need of registered printing on the back of the package, thereby simplifying the control operation. The individually wrapped bandage strips are glue sealed in the same operation that glues the four outside edges of each package, thus completing the double seal promoted on each Gotham package: "Individually wrapped and *double*-sealed for your added protection."

Cooperation with suppliers

All steps in the development were worked out carefully in cooperation with suppliers of the packaging materials. Rotogravure printing on the cast-coated, high finish paper had to meet the exacting requirements of the continuous automatic operation of the packaging machinery. The Food and Drug Administration demands that adhesive bandages be sterilized after packaging to assure a sterile dressing that may be safely used on a wound. Gotham Stickrite packages, after they are completely made and sealed, are sterilized in autoclaves using live steam at a temperature of 256 deg. F. under a pressure of 16 lbs. per sq. in. Necessarily, all papers, inks and glues used in the package had to be selected for their properties to withstand the high tem-

perature, pressure and moisture saturation involved in such a sterilization. This is why gluing, rather than heat sealing, is employed.

The new package is printed in two colors—dark blue and red on white. Every effort was made in planning the design to achieve a clean, ethical appearance and also to give prominent display to product and brand names for self-service selling on the counters of the variety store.

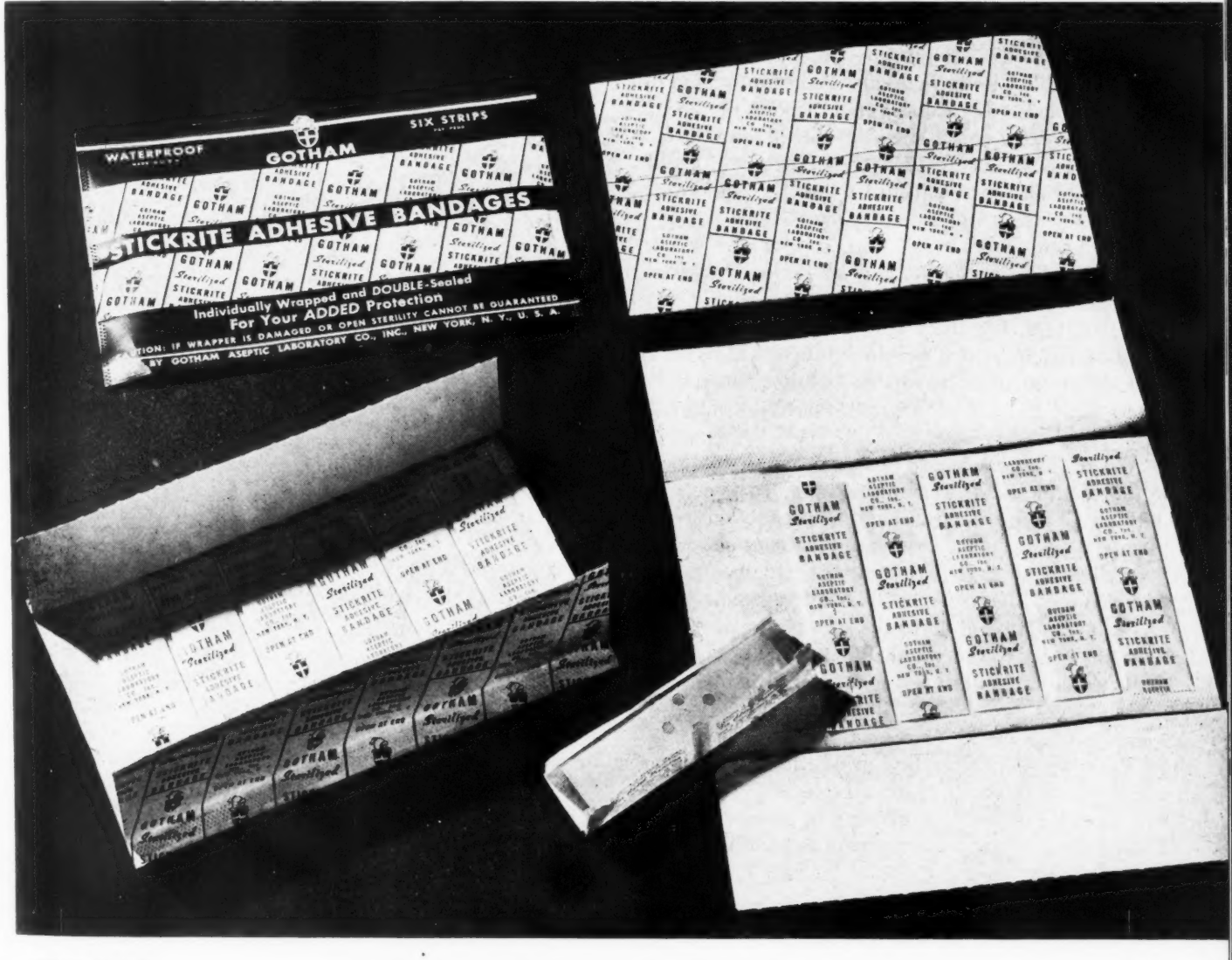
Chief characteristic of the design is a repetitive pictorial reproduction of the individually-wrapped bandage packages themselves, so that the shopper can tell at a glance what is contained in the sealed packages. Three blue stripes, reverse printed in white, on the face of the package present the name of the product, "Gotham Stickrite Adhesive Bandages," and tell that the package contains six strips, is waterproof and that the bandages are individually wrapped and double sealed. Company name is reverse printed in white on a red stripe at the bottom of the package. Printing on all of these stripes is carefully spaced at ample intervals on the roll to allow for any possible slight variations in registration of the electric-eye control. Further identity to the Gotham brand name is achieved by the use of a trademark—a heraldic shield with white cross on a red background. The back of the package contains an all-over line illustration of the individually wrapped bandages, arranged in a diagonal pattern.

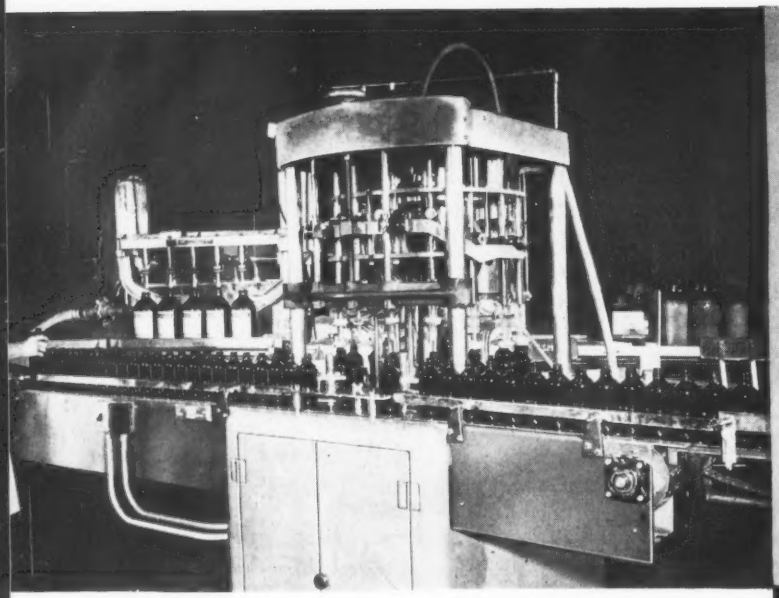
Work is now in progress on a bank of additional machines to provide sufficient productive capacity to meet the enthusiastic demand for this economical package which can be produced at high speed.

The company not only sells the packages under its own Gotham brand name, but does a tremendous business in private brands. It will produce the packages on a contract basis and is also considering the possibility of leasing the equipment.

CREDITS: *Glassine, Riegel Paper Corp., New York. Kromekote paper, The Champion Paper & Fibre Co., Hamilton, Ohio. Rotogravure printing, Milprint, Inc., Milwaukee, Wis. Electronic control, Ripley Co., Inc., Middletown, Conn.*

SEALED FLAT PACKET for counter sale is made from two facing sheets, one side printed with registered design and other with continuous pattern and perforation. Bandages are glued by same operation that seals four edges of package.

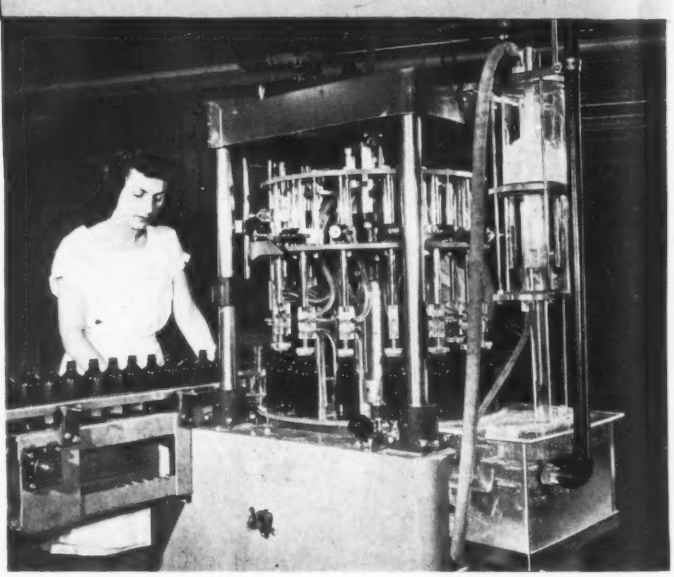

WATERPROOF
GOTHAM
SIX STRIPS
STICKRITE ADHESIVE BANDAGES
Individually Wrapped and DOUBLE-Sealed
For Your ADDED Protection
BY GOTHAM ASEPTIC LABORATORY CO., INC., NEW YORK, N. Y., U. S. A.



PLASTICS FOR PEROXIDE

Parke, Davis handles corrosive liquid with a new 15-spout filler utilizing acrylic and saran parts

ROTARY MACHINE fills three sizes of bottles automatically at speeds ranging up to 120 a minute. All of the parts contacting the hydrogen peroxide are made either of acrylic or of saran.



VIEW FROM REAR corner of machine shows the supply tank (below), fabricated from sheet acrylic, and the vacuum chamber for overflow, comprised of acrylic parts within a glass cylinder. Transparency of the supply tank permits instant visual inspection of the liquid level. Note the saran piping (right) which conducts the hydrogen peroxide from floor above to the filler.

Reaction between the product being packaged and the filling equipment frequently constitutes a serious problem in the handling of certain types of drugs and chemicals. If excessive maintenance of the equipment is to be avoided, the most direct solution to this difficulty is to insure that those parts of the filling machine which come in contact with the liquid are of a material which is unaffected by it.

Hydrogen peroxide solution, one of the scores of pharmaceutical products made by Parke, Davis & Co., Detroit, quickly corrodes metal. Accordingly, in the handling of this product, Parke, Davis has customarily used filling equipment in which all parts directly contacting the solution, as well as the pipe lines supplying it to the filler, are of such non-reacting materials as pottery, glass or rubber.

When it became necessary a short time ago to replace a filling unit which was approaching obsolescence and did not efficiently meet current production requirements, Parke, Davis installed a 15-spout rotary filler in which all parts that contact the hydrogen peroxide solution are either of acrylic plastic* or saran. Similar in design and operation to the standard type of rotary filler made by the same manufacturer, this specialized unit has now been in operation several weeks and officials of the pharmaceutical house are well pleased with the results obtained to date.

The older filling machine used on this line was a straight-line, semi-automatic type on which the time of the single operator was divided between placing the bottles on the intake conveyor and operating the filler itself. Adjusting the machine for the three sizes of bottles used always involved a delay of an hour or more.

Parke, Davis packages hydrogen peroxide in three sizes of amber Boston round bottles with continuous thread neck—4- , 8- , and 16-oz. The new rotary filler accommodates all three bottle sizes with a minimum of adjustment. No change-over of the plastic filling spouts is necessary; switching from one bottle size to another merely entails changing the two star wheels which transfer the bottles onto and off the filler turntable and adjusting the height of the filler spouts. Interchangeable 24-mm. continuous-thread caps with waxed liners are used on all three bottle sizes.

The new rotary filler is completely automatic in operation, permitting the one operator to devote full time to

* For another current example of the functional use of acrylic plastic in a packaging machine, see "Transparent Machine," MODERN PACKAGING, May, 1948, p. 113.

placing bottles on the intake conveyor. The washed bottles in their reshipper corrugated cartons are delivered to this operator on skids, then hand fed to the filling machine. Production speeds range from a maximum of 80 bottles per minute on the pint size to as high as 120 bottles per minute on the 4-oz. size. At the present time the speed of the filling machine is limited by the capacity of the two labeling units on the line. However, a new straight-away labeler scheduled for installation late this summer will eliminate this bottleneck.

Simplicity of adjustment on the new rotary unit permits a change-over to a different bottle size to be made in about 15 minutes, Parke, Davis packaging officials report. Normally, in the interest of efficient production, one bottle size will run for a week or so without interruption before switching over to another size.

Specification of Lucite (acrylic) and saran plastics for this filling machine was based on preliminary tests in which a number of plastics were studied. It was necessary, of course, to utilize materials whose resistance to hydrogen peroxide was satisfactory and which at the same time could be fabricated or otherwise shaped into the necessary working parts.

From a supply tank on the floor above, the filtered hydrogen peroxide is piped directly to the filling machine through saran pipes and fittings. Just before reaching the filling equipment, the solution passes through a glass filter used as a final safeguard against impurities. The saran line conducts the hydrogen peroxide directly into a 10-gal. supply tank on the filling machine, fabricated of sheet acrylic. Use of the transparent plastic material permits a visual check at all times of the amount of solution in the tank.

Individual filler spouts and the large circular turntable on which the bottles rest during the filling operation are also fabricated from acrylic material, as well as the interior working parts of the vacuum overflow chamber, which is formed by a large-diameter glass tube. Tubing connecting the filler spouts with the supply tank are also of acrylic, while those which conduct excess solution to the overflow chamber are of saran. Overflow solution is automatically metered back into the supply tank.

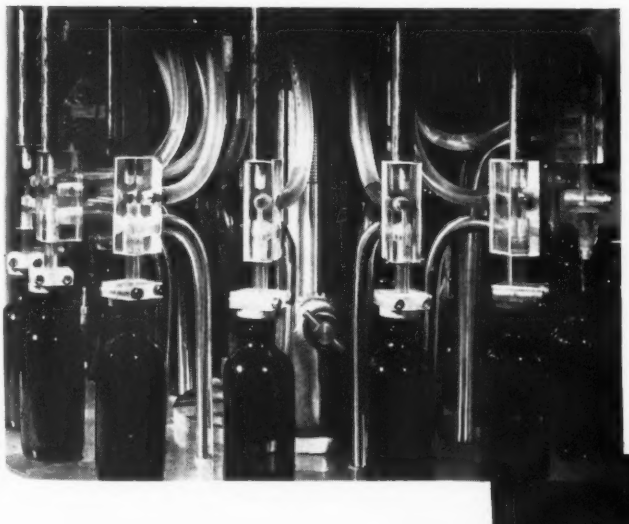
After the filling operation, the bottles are automatically conveyed to the capper, where the aluminum caps are applied. Labels, which are produced in Parke, Davis' own printing department, are then applied at two labeling machines. All labels are coded and keyed control bottles are filled at frequent intervals as a check.

Filled and capped bottles of Parke, Davis hydrogen peroxide are packed in the printed corrugated reshipper cartons in which the empties arrived from the bottle suppliers. No individual bottle cartons are employed, but corrugated separators guard against bottle breakage in transit. The 4-oz. size is packed 36 bottles to the carton and larger sizes are cartoned by the dozen.

As a precaution and for the convenience of operating personnel, the filling machine and other equipment on the hydrogen peroxide line, as in the case of other lines operated by this company, are fitted with clipped-on slips which identify the product being handled. On the hydrogen peroxide line, these tags also warn workers that the solution should not be permitted to contact metal surfaces.

Since its plastic working parts are unaffected by the hydrogen peroxide solution, it is believed that the new rotary filling unit will require very little maintenance attention. This feature, plus the flexibility of the filler and the important production increase which its use has made possible, render it a vital asset to the Parke, Davis hydrogen peroxide packaging line.

FILLING NOZZLES, machined from solid acrylic, are shown in this close-up in contact with bottles on turntable. Note flexible acrylic tubes (lower set) which conduct peroxide from tank to filler head, and flexible saran tubes above which carry excess liquid to overflow chamber.



CREDITS: *Rotary automatic filling machine, MRM Co., New York. Capper, Consolidated Packaging Machinery Corp., Buffalo, N. Y. Bottles, Anchor-Hocking Glass Corp., Lancaster, Ohio; Armstrong Cork Co., Lancaster, Pa., and Owens-Illinois Glass Co., Toledo. Caps, Aluminum Co. of America, Pittsburgh, and Phoenix Metal Cap Co., Chicago.*

PHOTOS COURTESY PARKE, DAVIS & CO.

THREE SIZES of bottles handled by the machine with simple adjustment are shown here. Corrugated cartons for packing product are reshippers from bottle suppliers.

MODERN

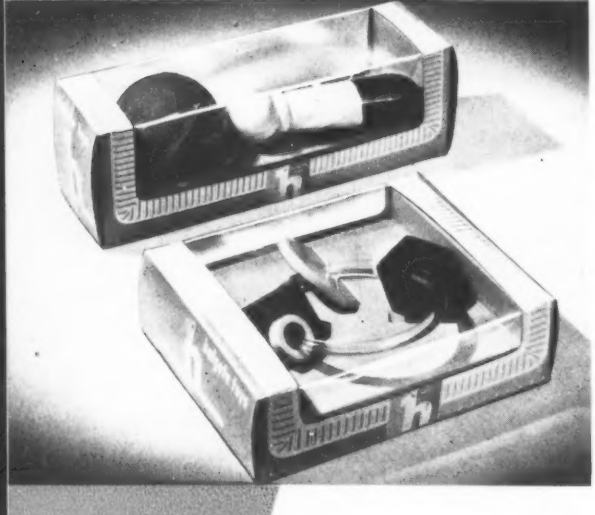
1

Taking advantage of the display value of its brightly colored plastic Color Coils for bicycle frames, handle bars and spokes, Frank Paper Products Corp. adopted this two-piece folding box with ample window treatment. Printed in blue and yellow on white boxboard, the cover illustrates use of the coils and lists the number of pieces contained. Carton, The Central Carton Co., Cincinnati.

2

In response to the demand for a moderately priced shaving lotion, John Hudson Moore has introduced a new $1 utility package of Sportsman lotion "For Everyday Use." The lower price is made possible by bottling the product in an inexpensive stock bottle and cap and a simple folding carton. Identity as a part of the Sportsman line is maintained through the same dark green color and the flying mallard emblem used on the de luxe product. Carton and label, J. Makowsky Corp., New York.

Holgate Bros. Co.'s new toy packages emphasize the company's new trademark character and visibility of the toy. Spacious top, round-the-corner windows of cellulose acetate show off the toys while protecting them. Design, Frank Gianninoto & Associates, New York. Cartons, Robertson Paper Box Co., Inc., Montville, Conn., using Celanese Corp. Lumarith.



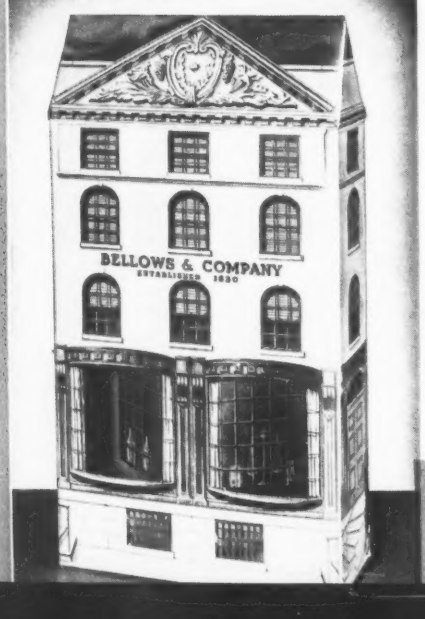
3

The reproduction of their building in New York on a two-bottle carton is the new package Bellows & Co., importers and wine merchants, have introduced. Package stores can make displays out of the cartons by pulling out the top flap to form the peaked roof. Cartons, The Gardner-Richardson Co., Middletown, Ohio.

Northam Warren is the latest of the cosmetic manufacturers to adopt the new convenient applicator-closure for nail polish bottles. Simulated mother of pearl finger-fit applicator above a white plastic closure fits over the new private-mold, fluted, semi-circular bottle for the new 25-cent Cutex nail polish. The label, appearing only on front, follows the semi-circular lines of the bottle.

An adaptation of the classic sunburst symbol forms the decoration for a folding carton containing a new soap-type skin cleanser, "Beauty in the Morning," made by Universal Laboratories, Inc. Metallic inks give richness

4



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PACKAGING PAGEANT

to the square package. The triangular-shaped soap cake is wrapped in cellophane. Cartons, Morris L. Lewy & Co., New York. Inks, Sleight Metallic Ink Co., New York.

7 To discourage repairmen from "borrowing" an item in the repair kits of hydraulic brake parts rather than ordering the items separately, Thermoid Co. has adopted this new tamperproof container. The metal-end fibre canister is used for master and wheel cylinder repair kits. Canisters, The Canister Co., Inc., Phillipsburg, N. J.

8 Bourjois' new package for Evening in Paris perfume is enhanced by the use of "mother of pearl" decorative paper now available again in a variety of colors and weights for box coverings. The design is made with a crystallizing material dissolved in nitrocellulose lacquer. Paper, "Crystallon," The Riegel Paper Corp., New York.

9 The distinctive Parker package for Superchrome ink has been changed from a friction-top metal can to a less costly convolute-wound fibreboard container with metal ends. Top of the new package telescopes the full length inside the base and holds bottle snugly. Metal ends and exterior of the cover section have an aluminized finish. As the rim of the base is slightly larger than that of the top, packages stack securely. Containers, W. C. Ritchie & Co., Chicago.

10 To stimulate package sales of book matches at retail outlets, Diamond Match Co. has replaced its unadorned paperboard telescope boxes with a blue and red checkerboard wrapper over a paperboard tray. The brightly colored package is the first major departure from the original boxes which were designed simultaneously with the introduction of the book match by Diamond 53 years ago. Machinery to handle the packaging has been installed in five plants. Wrapping machinery, Packaging Machinery Co., East Longmeadow, Mass.

11 Die-cut labels for the Old Mr. Boston brand of wines put out by Mr. Boston Distiller, Inc., feature the company's trademark portrait. Brand recognition is also encouraged by the name on the cap seals. Bottles, Hazel-Atlas Glass Co., Wheeling, W. Va. Labels, Daniels Printing Co., Boston, Mass.

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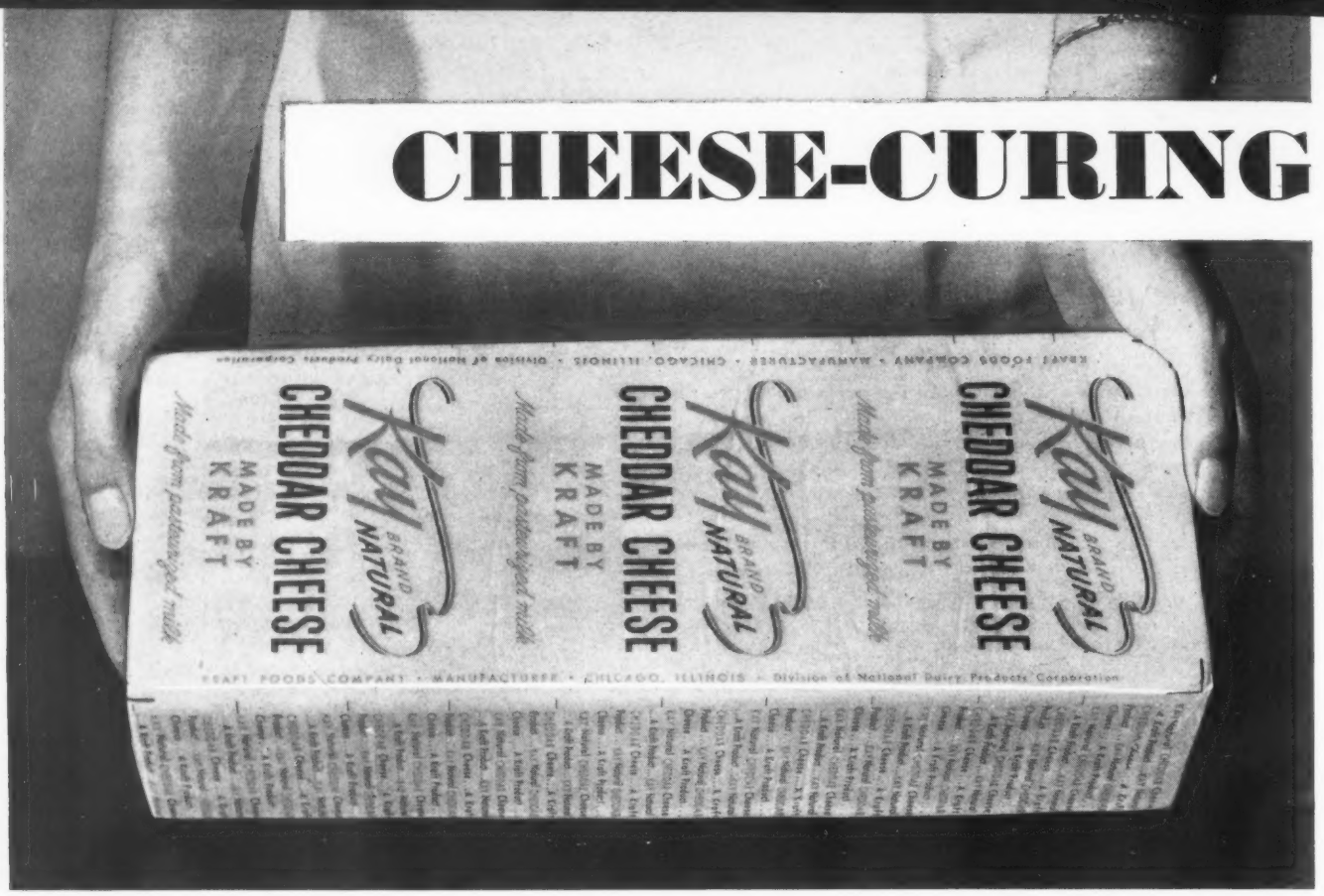
CHEESE-CURING


Kay BRAND NATURAL
CHEDDAR CHEESE
MADE BY KRAFT
Made from pasteurized milk
KRAFT FOODS COMPANY • MANUFACTURERS • CHICAGO, ILLINOIS • Division of National Dairy Products Corporation

NEW WRAPPER permits natural cheese for the first time to be packaged as attractively as processed cheese. Ten-pound block is wrapped and sealed thus when first made, ages for 2 months in the package. PHOTOS COURTESY KRAFT FOODS CO.

A natural cheese without rind, paraffin or cheese-cloth bandages, which is wrapped when first made and ages in its own transparent wrapper, has been described by Kraft Foods Co., its producer, as "the most revolutionary development in the cheese industry in many years."

The new Kay brand natural American cheese, which comes in 10-lb. rectangular units, culminates several years of intensive research and development work by Kraft food experts. Made from pasteurized milk, the product represents a joint effort in which processing as well as packaging problems had to be solved in order to achieve the desired result.

Kraft was actually ready for heavy production and distribution of the new cheese in 1941, but output was suspended during the war. During the postwar period, the company has been converting to the new type of packaging as rapidly as materials became available. First market tested in Cincinnati in 1942, the new Kay cheese is now being produced in approximately 20 Kraft plants. Every new and modern Kraft cheddar cheese plant opened to date and many modernized older plants have been turned to production of Kay natural.

The 10-lb. unit in which this cheese is packaged measures approximately 14 in. long, $5\frac{1}{2}$ in. wide and 3 in. thick and is practically as convenient to use as processed cheese in loaf form. Factory wrapped, the new unit permits more economical use of storage space, compared with that needed for the old round forms of American cheese, which range as high as 80 lbs. in weight.

Whereas the older style natural cheese customarily reached the consumer in irregular shaped wedges, slices or chunks, awkward for both the retailer and the consumer, Kay brand cheese meshes neatly with modern merchandising methods. The absence of the cheese-cloth bandages, paraffin or thick rind characteristic of other styles of natural cheese reduces waste and the labor of trimming. For retail sale, the food dealer has merely to slice the product or divide the 10-lb. unit into handy, easily sold wedges.

The time-honored method of handling natural cheese is to apply the cheese-cloth bandage and dip the product in molten wax. To get away from the disadvantages of this process, research men in the cheese industry and in state universities had for years sought a wrapper in which natural cheese would cure properly without developing mold. The eventual achievement of such a packaging material was the result of close cooperation between Kraft research and production men and one of the major packaging suppliers. Thanks to the special-purpose wrapper, precision "make" methods and the ability to make cheddar cheese from pasteurized milk, it is now possible to obtain practically uniform flavor in a natural cheese, it is claimed.

More than 10 years ago Kraft Foods Co., working in conjunction with a packaging supplier, had developed a transparent wrapper for process cheese. Searching further for a wrapper in which natural cheese could

FILM WRAP

Use of special flexible coating on cellophane lamination permits Kraft's natural cheese to age in the package without mold or rind

cure, the company conducted experiments with the new wrapper. It was determined that although this material did an admirable job on process cheese, it did not meet the much more involved requirements of the natural product. Then began the intensive research program of which the present wrapper is the end result.

The present wrapper, which allows the product to cure in the wrapper, is printed in red and blue and is essentially a cellophane lamination with a special flexible coating. After being pressed into rectangular shape, the cheese is packed on special equipment developed by Kraft. No detailed information can be given on the design or operation of the wrapping equipment. After packaging, the cheese is allowed to cure for an average period of two months under carefully controlled conditions. A large part of the natural cheddar cheese made by Kraft is now being packed in this new type wrapper.

Even after perfection of the wrapping material and the processing details, the job was not finished. There still remained the problem of getting the wrap around the cheese in such a manner that the product could cure, mold free, to the desired flavor. More than a year passed before Kraft put its stamp of approval on the wrapping method to be employed.

Finally, it was necessary to refine the wrapping process from a hand to a machine operation. A dozen different models of the wrapping machine were built and tested before Kraft engineers had a basic model they considered good enough to take to a machine shop for professional construction. After the building of three such units, Kraft's own machine shop took over, adding a series of improvements which are embodied in the slick-looking unit that does the packaging job today.

The attractively printed transparent wrapper uses a repetitive design treatment, the brand name and flavor identification appearing three times on the face of the wrapper.

Side panels repeat the product and company identification the entire length of the package. Guide lines along the edge of the package indicate where the cheese may be cut for division into 1-lb. units.

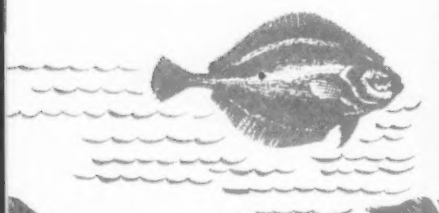
Before each wrapped block of Kay brand cheese is slipped into its individual folding carton, it is weighed and the exact weight is plainly marked directly on the wrapper. Four of the 10-lb. packages are then placed in corrugated shipping containers and stored in special rooms until ready for shipment.

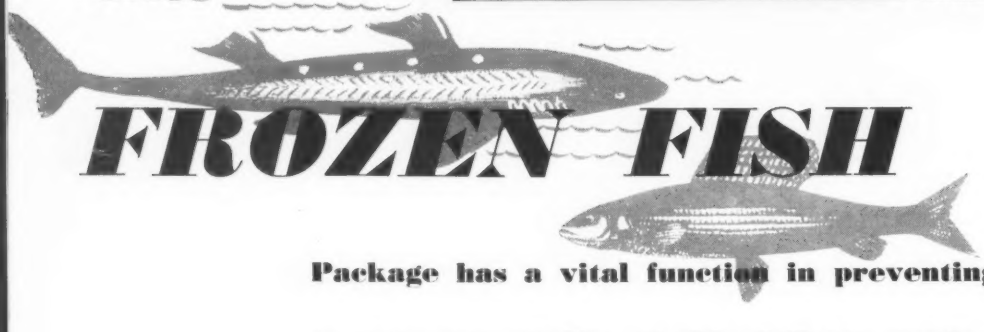
CREDITS: *Modified Parakote wrapper, Marathon Paper Co., Menasha, Wis. Folding cartons for 10-lb. units and corrugated shipping containers, Hummel & Downing Co., Milwaukee; The Ohio Boxboard Co., Rittman, Ohio, and Waldorf Paper Products Co., St. Paul, Minn.*

EXACT WEIGHT is plainly marked on the wrapper with crayon before the block of cheese is placed in its individual folding carton for shipment.

FOUR CARTONS go in each corrugated shipping container. Here the shipping cases are being stacked in a storage cooler to await shipment.

INSPECTING and trimming of fillets prior to packaging. Development of improved packaging and freezing techniques will bring about an expansion of markets for frozen fishery products.





FROZEN FISH

Package has a vital function in preventing desiccation and spoilage to preserve quality of this delicate product.

By S. R. POTTINGER*

The problems of freezing and frozen storage of fish and shellfish are, on the whole, very much like those for other frozen foods. The packaging requirements are similar and the requirements for storage, with some exceptions, are much alike. Changes in flavor will occur in seafoods during periods of frozen storage much the same as in other frozen foods. Some varieties of fishery products have a tendency to toughen after being held for varying periods of storage.

There is, however, an additional important problem with certain varieties of fish which is encountered with only a few other frozen products. The fat or oil that is present in the body tissues of these fish will undergo oxidation, with subsequent undesirable changes in flavor and, in extreme cases, changes in the appearance of the fish.

Fish and shellfish may be classified arbitrarily into two broad groups, depending upon the fat content of the muscle tissue. The non-fatty fish comprise one group which includes those fish the flesh of which contains less than 3% fat. The fat or oil of these fish is generally stored in the liver; haddock and cod are examples. The other group, which is made up of fatty fish, includes those which store their fat in the muscle tissues of the body. The flesh of these fish contains more than 3% fat and in some species as much as 20%. Salmon and mackerel are examples of fish included in this group. Shellfish are classified as non-fatty, since their flesh contains very little fat.

Chemical and physical changes

During storage, fishery products undergo changes of two general types, namely, chemical and physical. Chemical changes include those brought about by the action of bacteria, those due to the action of naturally occurring enzymes, denaturation of the protein and oxidative changes in the fat or oil. The principal physical changes are desiccation or drying out of the flesh and ice-crystal formation.

From the standpoint of packaging, there is little that can be done to stop the action of the autolytic enzymes in fish. In the preparation of certain other products, such as vegetables for freezing, blanching is an impor-

* Chemist, Fishery Technological Laboratory, United States Fish and Wildlife Service, College Park, Md.

PACKAGING LINE at an Oregon plant preparing fresh fish fillets for freezing. Proper packaging permits the products to withstand long periods of storage without drying and maintains the original appearance and flavor so far as possible

tant step in order to inactivate or markedly reduce the action of the enzymes. Such treatment is not practicable for animal tissues, however, and although the temperature of frozen storage will greatly retard the rate of enzyme action, spoilage from this source will eventually occur.

A second important factor is decomposition by bacterial action. The growth of bacteria is reduced proportionately as the temperature is lowered. As long as the products are maintained at temperatures generally recommended for storage of frozen products, the package has little direct influence on spoilage caused by bacterial action. At a temperature of about 15 deg. F. most bacterial action is stopped. Freezing will cause a marked reduction in the number, but will not necessarily kill all bacteria present. If the temperature becomes too high, bacteria will again multiply.

The package, then, does have an important function in helping to control the degree of spoilage caused by bacterial action by preventing further contamination of the product during handling. This is especially important for foods both in the unfrozen condition and particularly during and after thawing, when bacterial action may be quite rapid. During storage in the frozen state, the inactive bacteria are less obvious but, nevertheless, are potential sources of trouble, awaiting a rise in temperature to become active.

Packaging is of importance in retarding oxidative changes in fish. Oxidation of the fat that is present in fish is a factor which has much to do with the period of time that fish—particularly those designated as fatty—can be maintained in a satisfactory condition in frozen storage. The fat contained in fish is much more susceptible to oxidation than is the fat found in other animal or vegetable foods. Oxygen is rapidly absorbed by this fat and will soon cause the loss of fresh flavor and the development of rancidity. Bleaching and fading of the natural color of the fish may also occur and in extreme cases the fat will darken, causing the fish to assume a brown color. These changes can be retarded by packaging tightly with essentially air-tight wrappings to prevent ready passage of air to the fish.

The low temperatures which are required for proper storage of frozen fishery products and frozen foods in general will cause extreme desiccation or drying out unless special preventive precautions are taken. The humidity of the air in a frozen-storage room is quite low. On the other hand, the air immediately surrounding the frozen food is practically saturated with moisture. The dry air in circulating through the room will pick up any moisture that is available. Any exposed or improperly packaged food products in the room will thus lose moisture, in the form of water vapor, and will rapidly develop a dry, spongy and discolored surface. The tissues become tough due to denaturation or irreversible changes in the protein. This condition is known as "freezer burn." The package is of prime importance in order to prevent this drying. Care is needed to package the food properly in containers which have a very low or—ideally—a zero rate of water-vapor transfer, so as to keep the moisture where it belongs—within the package.

Ice glaze a poor package

For bulk storage of frozen fish, the "package" which has been generally in use for many years is the ice glaze formed by coating the frozen fish with cold water. Such a "package" falls far short of meeting the require-

ments of a satisfactory package as we know it today, since the glaze is quite brittle and will crack or chip very easily. In addition, it does not last long at best, since it will soon sublime or evaporate in the dry atmosphere of the cold-storage room and must be renewed at frequent intervals. This difficulty is overcome to some extent by freezing some varieties of fish in blocks which, after being glazed, are placed in cartons or boxes to retard the loss of the glaze.

The glaze, which has found wide usage in the frozen-fish industry, serves as a protective coating for retarding the loss of water vapor from products during storage. It also prevents ready access of air to the fish and retards the onset of rancidity. Through its use, the dry air of the storage room picks up moisture largely at the expense of the glaze and removes very little moisture from the fish itself. For this very reason, however, the glaze must be renewed rather frequently, requiring special attention and increased handling.

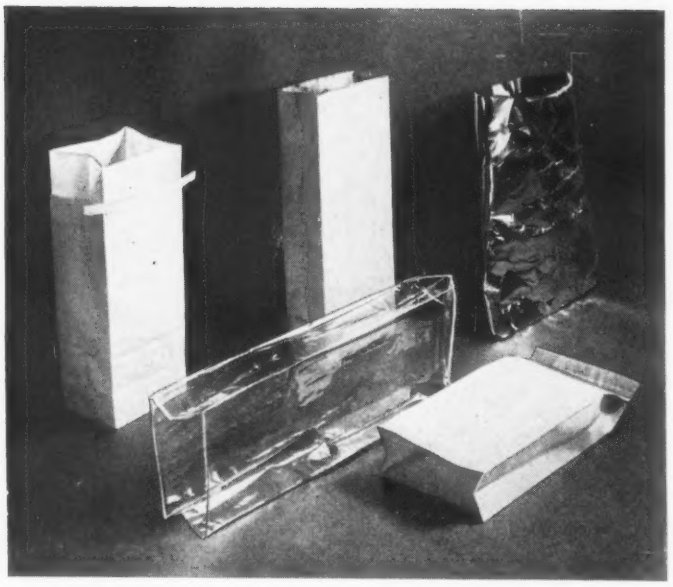
For fish and shellfish which because of their shape and size are adaptable to being frozen in blocks and then packaged, a glaze is often applied prior to packaging. This is particularly true with green shrimp, as the many air spaces between the individual shrimp favor ice-crystal formation and desiccation of the shellfish. A glaze, by coating or filling these voids, retards or even prevents this difficulty.

Because of the widespread practice in the early days of the industry of glazing frozen fish, very little attention was given to their packaging. With the introduction of filleted fish over 25 years ago, packaging of other food products was becoming commonplace and the consumer soon demanded that fillets be available in packaged form also. When quick-frozen foods were introduced, the use of wrappers or packages rapidly followed and the consumer became conscious of the advantages of receiving frozen fish in convenient packaged form. This, however, is only a part of the story in regard to the need for packaging these frozen products.

The necessity for providing proper packaging protection to the frozen product was not at first realized by many of the producers of frozen fishery products. It was soon found that steps had to be taken to permit the products to withstand long periods of storage without drying out and to maintain the original appearance and flavor so far as possible. Some producers have only recently begun to use packages which will provide the necessary protection against loss of water vapor. In fact, an apparent lack of understanding is still being shown by some packers in their failure to use satisfactory packages. Too often a makeshift container entirely inadequate for the requirements which it should meet is provided for these products.

Water-vapor rate is crucial

The requirements for satisfactory containers for frozen fishery products are no less rigid than for other frozen products. The choice of the package is very important in protecting and merchandising the product.



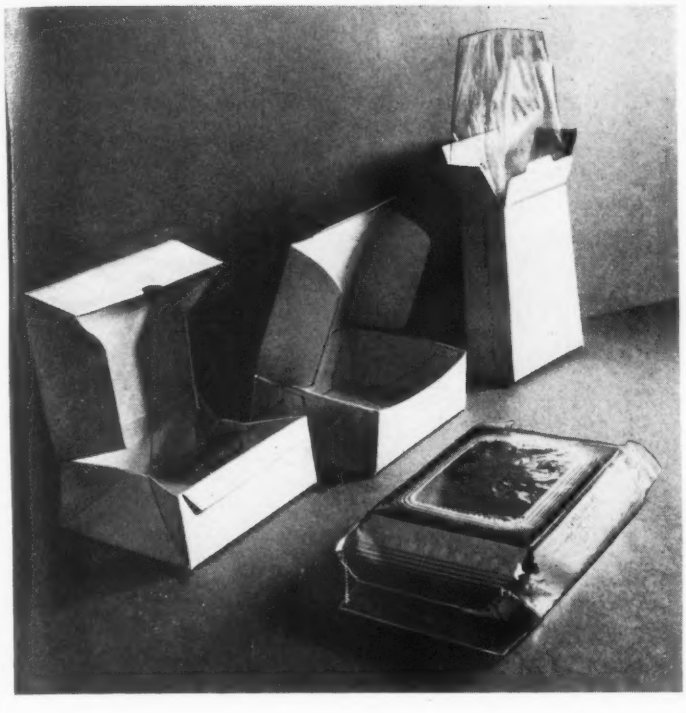
PACKAGE TYPES tested by Fish and Wildlife Service (above and opposite page). Water-vapor retention being especially important, sealed inner or outer barrier—or both—is recommended.

The problem of vital importance is that of preventing loss of moisture from the product. The use of packaging materials having *low water-vapor transmission rates* must be emphasized. A package made of suitable water-vaporproof materials which will satisfactorily withstand low storage temperatures without becoming brittle or otherwise unsatisfactory and which is tightly sealed, will provide adequate protection for a long period of frozen storage.

Considerable variation was found in the efficiency of the different materials in tests conducted at this laboratory on the effectiveness of various packages and packaging materials against loss of moisture from fishery products held in frozen storage. The average loss in weight for most types of packages tested was quite small, amounting to only a few tenths of 1% during a storage period of one year. In some instances no loss occurred. In a number of instances considerable variations in weight losses, though slight, were found between individual packages made of the same material. This was particularly true with some of the packages containing heat-sealed cellophane bags and those with heat-sealed overwraps, whether they were coated paper, cellophane or metal foil. The heat seals appeared to be tight, but there was a possibility that a poor seal not readily detectable was obtained.

On the other hand, considerable variation in water-vapor permeability of coated films and papers is not at all uncommon due to irregularities in thickness of coating, small breaks, brittleness and cracking at low temperatures, and crevices caused by creasing of the sheet. One or more of these factors could very easily account for variations in weight losses between individual packages, particularly over an extended storage period.

From the standpoint of moisture retention afforded



by the packages, little advantage was found in the use of an overwrap with a good quality bag-in-box type of container. Weight losses were about the same whether or not an overwrap was used. This is not to be taken as meaning, however, that an overwrap is of little value when used under these conditions. The extra protection which overwraps provide to certain types of containers is certainly of value in preventing possible leakage due to faulty materials or closures. With some other types of rectangular paperboard containers, which are often used without a sealed inner bag, an overwrap of good quality was found to be important in retaining water vapor within the package.

The tinplate can is often thought of as being an ideal container for certain varieties of frozen seafood. This may be true to the extent that there is no water-vapor loss and no leakage of the contents from a sealed can. For commercial use and distribution of frozen foods, however, particularly in consumer-sized containers, a very important factor must be considered. To the ultimate consumer of canned goods, the tin can is generally associated with processed foods which can be held on the shelf at room temperature. Because of this, the consumer who has always been in the habit of placing canned goods in the kitchen cabinet is very apt, through force of habit, to place the can of frozen food there also. The outcome is quite obvious and, in fact, could prove to be dangerous. For this and other reasons, the frozen-food industry has taken the stand that packages for frozen foods should be distinctive so that they will not be confused with products preserved by processing with heat.

In the packaging of fishery products for freezing, particularly those which are classed as fatty, air should be excluded from the package so far as possible in order to delay oxidative changes and the onset of rancidity. Close-fitting packages made of high quality materials suitable for frozen-food packaging will be of particular value. Air spaces within the package should be kept at a minimum, not only to reduce the chances of oxidation occurring in the fish, but to prevent ice-crystal formation and localized freezer burn as well. For large fish and those products which cannot readily be packaged to exclude air and air spaces, a glaze should be used. If practical to do so, it will be found best to protect the glaze by use of a package.

Other physical factors

In the selection of a package for fishery products, sight should not be lost of the fact that there are factors to be considered other than water-vapor retention and exclusion of air. Certainly the package has other functions to perform as well, particularly for those products which go out in consumer and institutional-sized packages. It must provide structural support during filling and freezing, as well as prevent physical damage to the contents in the normal course of handling during storage and distribution. The paperboard used in the fabrication of the container should be waxed or otherwise treated to prevent loss of rigidity and discoloration which might occur through contact with wet materials or through condensation of moisture on the surface of the package. The container should be made of materials that are tasteless, odorless and non-toxic.

In selecting a carton, certain characteristics of the product to be placed in it should be considered, together with the degree of handling which will be necessary during packaging and freezing. If oysters, for example, are to be packaged by hand a water-tight container such as a sealed bag within a carton, would probably prove more satisfactory, since the package can be turned at any angle before freezing without danger of spillage.

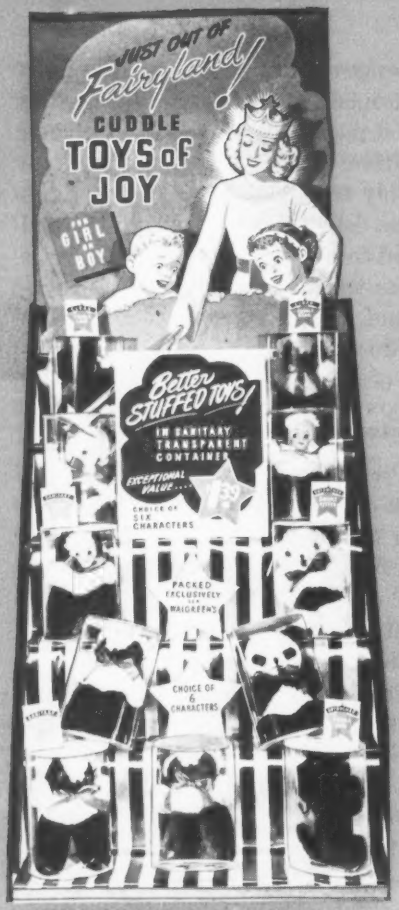
Much attention should be given to merchandising qualities of the package. This is quite important to insure consumer appeal and successful sale of the product. A properly designed and attractively printed package having a clean, sanitary appearance will go far in conveying merchandising appeal to invite purchase and encourage consumer acceptance.

An overwrap for most types of cartons provides added protection against leakage, against water-vapor loss and against wear and tear which normally are to be expected during distribution. In addition, it furnishes an excellent medium for attractive printing and labeling. Several types of materials for overwraps are now available.

Study of odor transfer

There is hesitancy on the part of some operators of frozen-food storage plants to store fish with other products because it is believed that fish odors and flavors will be absorbed by the other foods. Because of this uncertainty, a series of experiments was conducted by this Service to ascertain (*Continued on page 244*)

Display



Walgreen drug store displays for stuffed plush animal toys and dolls stress the cleanliness features of toy packaging. Each of them is protected by its own clear plastic container. The stair-step effect of the display, with striped background, gives mass appearance with minimum stock.

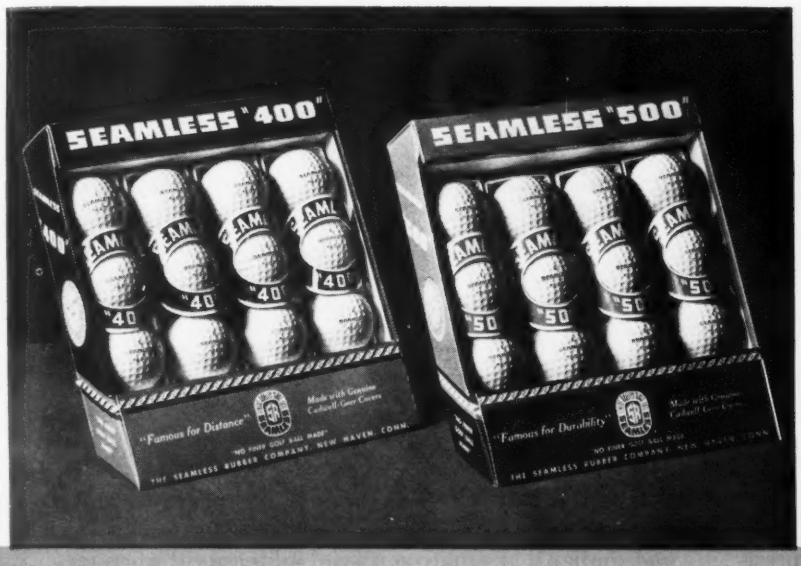
A dramatic illustration on lithographed counter displays showing how Walter Kidde & Co.'s new Fyre-Freez extinguisher spreads a layer of carbon dioxide over a fire gives the necessary impact to capture shoppers' attention. A convenient pocket in the display front contains sales folders to which shoppers are invited to help themselves and "take a tip on safer living." Display, Forbes Lithograph Co., Boston.

Designed to facilitate top-of-the-counter sales of Murine eye aid is this new molded plastic counter merchandiser which holds ½ doz. packages of the preparation in two different sizes. The streamlined unit measures 7½ in. high by 8½ in. wide and 5½ in. deep. It is made of white polystyrene, with lettering and price marking screened in black and red. A special solution protects the unit from static electrical attraction. Display, G. Felsenthal & Sons, Chicago. Polystyrene, Monsanto Lustron.

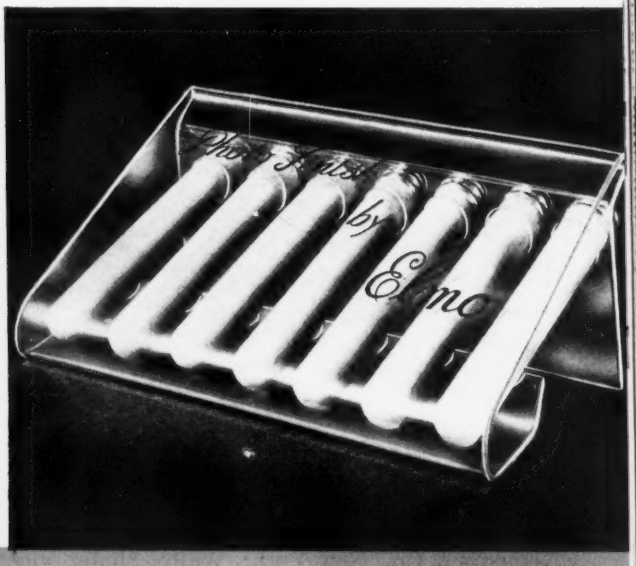
The Pocket-Pack of Kleenex, first introduced a year ago (see MODERN PACKAGING, June, 1947, p. 127), is now being sold from a new three-color display carton of folding board. Its feature is a graphic representation of the manner in which tissues may be removed one at a time from a slit in the cellophane pack made by a tear-tape. Each display carton holds 12 individual Kleenex Pocket-Packs. The scored lid is die cut to form the riser. Red is combined with the familiar Kleenex colors of light and dark blue. Cartons, The Ohio Boxboard Co., Rittman, Ohio.

This low-cost motion display for Norman pens is lithographed on two sides, with the displacement of colors distributed so that when the flasher light goes on and off, the thumb moves, the pen's ball point protrudes and hidden copy appears in the arrow. Display, United Lithographing Corp., New York.

Gallery

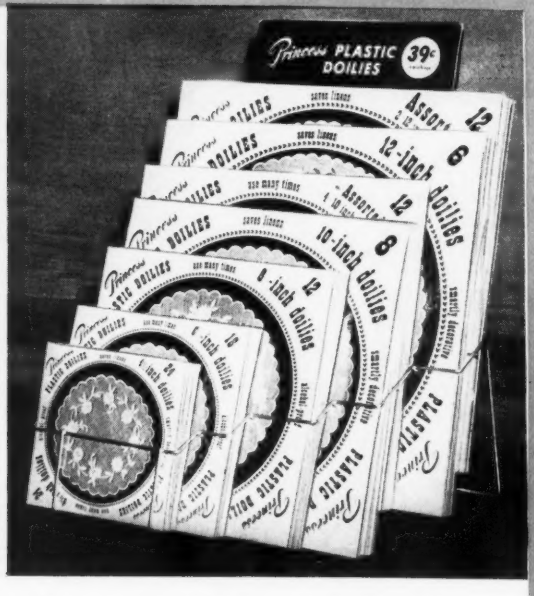


A compact, colorful counter display carton takes little space in sporting goods stores and pro shops, but builds customer recognition for the new line of golf balls made by The Seamless Rubber Co. The two price lines are distinguished by different color combinations used on the packaging. Balls are placed in paperboard trays overwrapped in cellophane. Center ball in each of the trays is framed by a circular die-cut paper label.



Transparent acrylic is used for this combination counter display and powder tester for Elmo Sales Corp.'s Photo Finish face powder. Seven vials, made of acetate, fit into die-cut openings at the back. They allow visibility of the powder shades and are easily removable for testing by the customer. Formed of light-weight stock without any cementing, the display is said to be extremely sturdy. Product name is hot stamped from the inside. Display, Blue River Plastics Mfg. Corp., New York.

Winner of Chicago Federated Advertising Club's competition is this mechanical race-track display for Kentucky Tavern. Two lights under plastic canopy spotlight metal horses. When bottle is lifted, wooden turntable spins. Display, W. L. Stensgaard & Associates, Chicago.



Seven sizes of Princess plastic doilies may be displayed in a minimum of space by this metal frame rack. Packages are cellulose acetate, three-color offset gravure printed, hand wrapped and heat sealed. Design, Liam Dunne, New York. Rack, Central Wire Frame Co., Inc., New York. Acetate, Celanese Lumarith.

Rose-tinted acetate mounted on an inclined platform of cyclamen-colored paperboard gives this display dispenser for 3 Daughters deodorant puffs a cosmetic look. The dispenser, which operates on the gravity principle, holds 3 doz. puffs, serving them up to the shopper one at a time. Copy is screened on acetate in white and gold. Display, Geo. V. Clark, New York. Acetate, Eastman Kodak Co.'s Kodapak.

Meat packagers report

Supermarket operators hear that 5,000 stores already are boosting profits with self-service meats, but are warned of problems to be solved

Developments in the self-service merchandising of meat—a growing trend freighted with important packaging implications—were aired during a panel discussion of the subject at the recent 11th annual convention of the Super Market Institute, held at the Stevens Hotel, Chicago.

Sam Steinberg, president, Steinberg's Wholesale Groceterias, Ltd., Montreal, Canada, was chairman of program. Those taking part in the panel included J. D. Rankin, special representative for E. I. DuPont de Nemours & Co., New York; Walter Shafer, vice president, Armour & Co., Chicago; W. C. Metzger, vice president for retail operations, Red Owl Stores, Inc., Minneapolis, Minn., and James Cooke, Penn Fruit Co., Philadelphia, Pa.

Shafer of Armour

Mr. Shafer estimated that, exclusive of frozen food cases, retailers throughout the nation have some 30,000 refrigerated cases that could be used for self-service meats, although the actual present use of the cases is not known. The speaker reported that the number of stores on a partial self-service meat basis is under 5,000.

Complete self-service meat operations are heavily concentrated in Southern California and Texas. A survey by Armour & Co. failed to reveal even a single complete self-service meat operation in 13 states. More than half of the complete self-service meat operations are less than a year old.

"Sales usually go up with self service," Mr. Shafer said, "especially with offal products, cold cuts, smoked meats and poultry. The reasons are logical. Ordinarily, these items do not receive much attention or display space. Also, these items often look less appetizing in a service meat case than in a self-service case. Pigs feet and similar items take on special sales appeal when prepackaged in a transparent wrapper and displayed in a self-service case.

"Mark-up generally goes down in the beginning, due to initial mistakes. . . . Operating cost is the most elusive factor to pin down. In general, operating costs are not lowered in a complete self-service meat operation. Wrapping material costs are higher and frequently so are labor costs. . . . Profit often disappears entirely in the early stages. Generally, if the operator is able to show some progress as the months go by and if he is not discouraged too easily, he can usually begin to see reasons for continuing complete self service."

Self-service operators say the principal advantage of this type of meat merchandising is elimination of the meat counter bottleneck, the Armour executive stated. It provides an opportunity for better control over the meat operation, permits greater standardization of cutting, trimming and packaging, and makes possible the display of a wide variety of meats at all times.

Principal disadvantages of self service, he said, have to do with the relatively short shelf life of pre-packaged meats, the high cost of labor and packaging materials in some instances and the problem of working out production schedules to coincide with peaks in buying. Some operators, in an effort to maintain personal contact between the store and its customers despite the elimination of the butcher in a complete self-service arrangement, utilize hostesses to aid buyers in making their selections and to provide menu suggestions.

Mr. Shafer discussed cutting and packaging room temperatures and also the problem of meat discoloration under natural and artificial light, then went on to say: "No one type of wrapper is ideal for all meats. One film is best for fresh red meats; another for lunch-

LUNCHEON MEATS are best wrapped in LSAT-type cellophane; their shelf life is comparatively short, experts say. PHOTO COURTESY DU PONT.

eon meats, frankfurters and pork sausage; still another for dry sausage, sliced bacon and similar products. Learn which is best for each product."

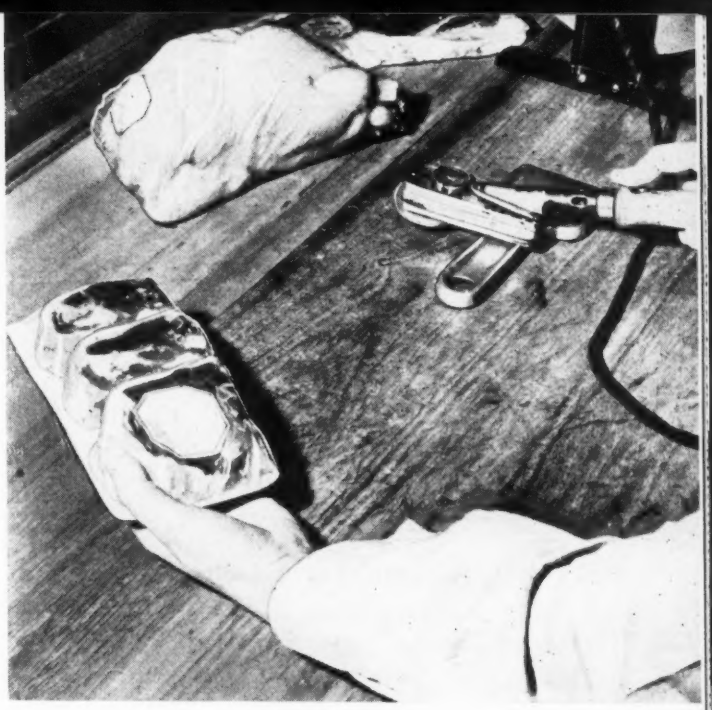
How do operators feel about complete self-service merchandising of meats (in which all products are pre-packaged and sold entirely on a self-service basis)? "In general," Mr. Shafer reported, "the complete self-service meat operator is satisfied—at least outwardly. In many instances the retailer has had insufficient experience to make up his mind. In other instances the store opened with complete self-service meats, thus providing no basis for comparison.

"Our survey turned up only a handful who expressed dissatisfaction with results to date. Every one of these had weekly meat sales of $1,000 or less. From the available information, we expect continued growth in complete self-service meats during the balance of this year at least."

Mr. Shafer advised most retailers, and especially smaller operators, to move "cautiously" into pre-packaged meats. "In general," he said, "it is dangerous to set up a complete self-service meat operation where volume is under $2,000 weekly; some retailers place the minimum volume considerably above $3,000.

"The typical retailer might start with partial self service, with essentially uniform items which are easily pre-packaged and on which there is an opportunity for more sales, such as cold cuts, sausage and smoked meats. 'Get your feet wet' with these items. Make your mistakes on a small basis. If you are not successful with these items, don't bother about fresh meats. . . .

"We are of the opinion that complete self-service meats will continue to grow because the idea is basically sound and the whole trend of food merchandising is to more self service. On the other hand, we do not believe complete self service will grow as fast as some people expect."



PLIOFILM is used by Grand Union at Hempstead, Long Island, for chops, poultry and steaks. MSAT-80 cellophane also is recommended for packaging red meats. PHOTO COURTESY GOODYEAR.

Mr. Shafer cited Armour's new 1-lb. frankfurter package as ideal for self service and stated that a consumer-sized package of smoked pork sausage, similar to the frankfurt package, would be made available as rapidly as possible. He said that Armour's new vacuum-packed bacon package and another bacon package, with a paperboard back and maximum of transparency, would be made available nationally as soon as conditions permit.

"Smoked meat items can be made ideal for self service," stated Mr. Shafer. "We believe we have done this with our picnics in a new transparent wrapper, with our smoked pork shoulder butts in a similar new wrapper and with our smoked beef tongue, which has been on the market for some time now in the new wrapper. Ideally adapted for self-service selling are ring bologna, 8 oz., cervelat, 8 oz., dried beef in transparent packages and chili in a consumer package.

"Sausage items which we have been putting up in consumer-sized packages of approximately 1 lb. for self service only in a limited way so far include Braunschweiger, bologna, salami and thuringer. We hope to make these pre-packaged sausage products more generally available.

"So far as fresh red meats, such as steaks, chops, roasts, etc., are concerned, from what we know at present, it is doubtful that we can even think seriously of pre-packaging these items (at the packing house) for self service for a long time to come. On sliced cold cuts and luncheon meats we are not at all sure that we can successfully pre-package these items. All tests that we have made thus far indicate (*Continued on page 234*)

MOLDED PULP TRAYS are being increasingly used as containers for pre-packed fresh red meats, overwrapped with transparent film. PHOTO COURTESY B-F-D DIVISION, DIAMOND MATCH CO.

SAN FRANCISCO's famed Civic Auditorium is the setting for the first Western Packaging Exposition and Conference.

THE WEST'S OWN SHOW

100 exhibits, 2,000 visitors expected in San Francisco Aug. 10–13 for first Packaging Exposition and Conference ever held west of Mississippi

Recognizing the tremendous industrial, commercial and agricultural growth of the 11 Western States—and the great actual and potential market this expansion creates for packaging—approximately 100 supplier companies will fill 50,000 sq. ft. of exhibit space in the San Francisco Civic Auditorium during the first Western Packaging Exposition Aug. 10 to 13. At least 2,000 representatives of Western package users are expected to attend the Exposition and the concurrent Conference on Packaging, Packing and Shipping, which will have sessions on the first three days.

A 54-page special section starting on p. 131 of this issue of MODERN PACKAGING surveys the packaging potential of the Far West and examines trends and requirements of some of the section's largest package-consuming industries.

The Exposition and Conference will bring to Western packagers a facsimile of the annual AMA show, with special attention to their own particular problems and requirements. The need for the sectional show was demonstrated by a survey which revealed that very few of the packaging men west of the Rockies found it possible, in these busy times, to make the long trip East.

Having no official connection with the American Management Assn., the Western show is sponsored by Clapp & Poliak, Inc., who for many years have managed the successful AMA exposition. They have been assisted by an Advisory Council representative of the Western packaging field, headed by Kenneth K. Dean of San Francisco, publisher of *Good Packaging*, as general chairman of the Exposition and Conference, and Dr. William Rabak of the Department of Agriculture research laboratory at Albany, Calif., as program chairman.

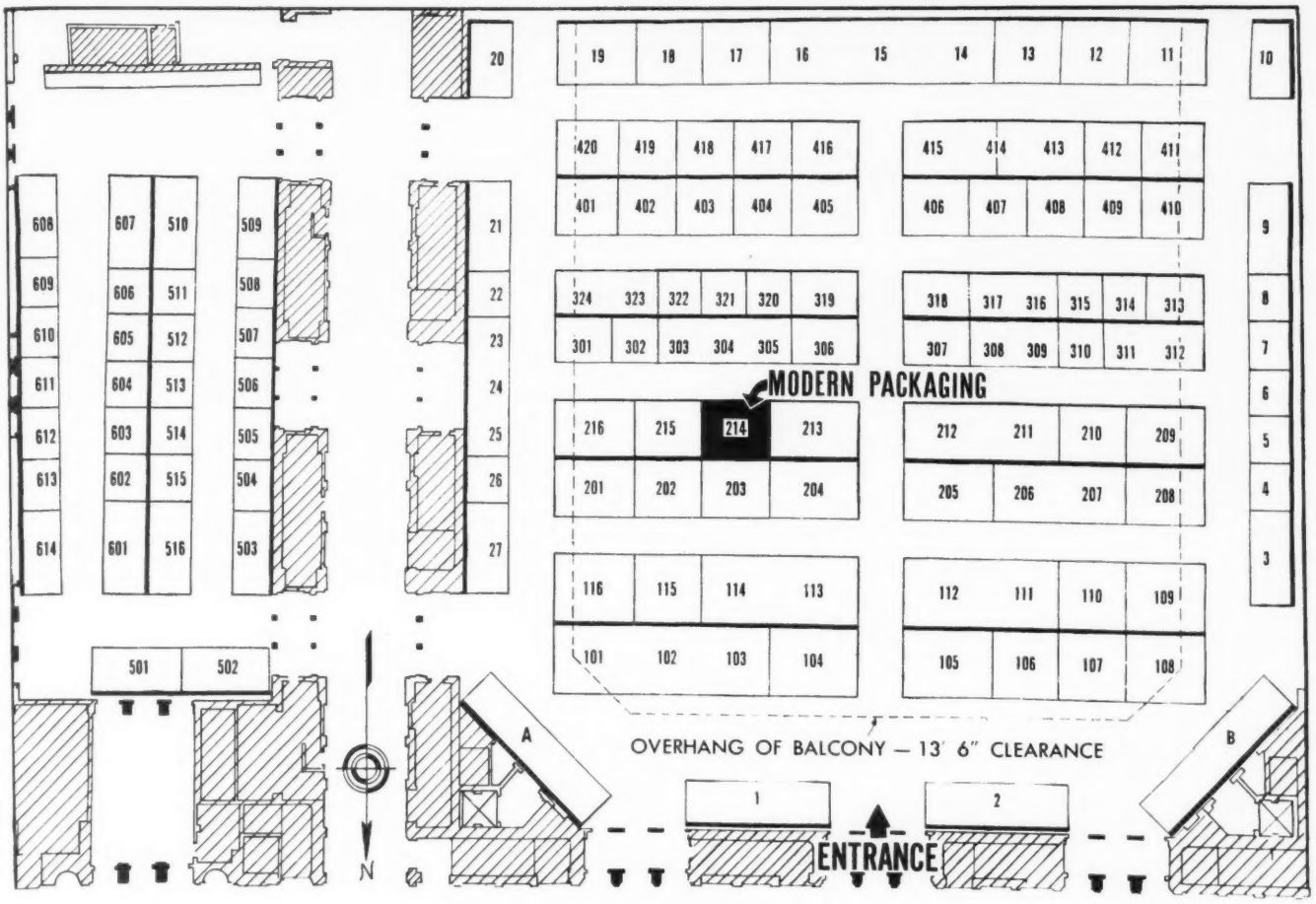
There will be no charge for admission either to the Exposition or the Conference, company identification and registration being all that is required. A previous plan for a Conference registration fee has been dropped to help build up attendance at this first meeting. The conference will be held in a hall of the Civic Auditorium adjacent to the exhibits and directly accessible from them.

The Exposition will open at 10:30 A.M. Tuesday, Aug. 10, and will be open daily from 10:30 to 5:30 through Friday, Aug. 13, except on Wednesday, when the doors will be open until 10 P.M. The first Conference Session is scheduled for 2 P.M. Tuesday, with morning and afternoon sessions to follow on Wednesday and Thursday at 9:30 A.M. and 2 P.M.

The Conference program has been carefully prepared on the basis of a questionnaire sent by the Advisory Council to 425 Western executives of commercial, industrial and trade associations, and agricultural organizations vitally concerned with packaging and shipping. The returns indicated that Western companies are increasingly occupied with both the technical and sales-promotion phases of packaging. The complete program is given on the second page following this article.

A report on the Conference proceedings will appear in the September issue of MODERN PACKAGING.

FLOOR PLAN OF THE WESTERN PACKAGING EXPOSITION



CIVIC AUDITORIUM, SAN FRANCISCO, AUG. 10–13, 1948

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FIRST WESTERN CONFERENCE ON PACKAGING, PACKING & SHIPPING

Civic Auditorium, San Francisco, August 10–12, 1948

Program

TUESDAY AFTERNOON, August 10

Chairman: H. C. Diehl, *Director and Secretary, The Refrigeration Research Foundation, Berkeley, Calif.*

2:00 **INTRODUCTION**—Dr. William Rabak, *Western Regional Laboratories, Department of Agriculture, Albany, Calif.*

2:10 **THE WESTERN PACKAGING EXPOSITION & CONFERENCE**—H. C. Diehl.

2:30 **ADDRESS OF WELCOME**—Hon. Elmer E. Robinson, *Mayor, City of San Francisco.*

3:00 **IS THE WEST HOLDING ITS INDUSTRIAL GAINS?**—J. Lester Perry, *President, Columbia Steel Co., San Francisco.*

WEDNESDAY MORNING, August 11

Chairman: J. E. Hall, *Production Manager, Pictsweet Foods, Inc., Mt. Vernon, Wash.*

9:30 **WHAT IS GOOD PACKAGE DESIGN?**—Leonard Arthur Wheeler, *Package and Product Engineer, Los Angeles.*

10:15 **THE CONSUMER LOOKS AT THE PACKAGE**—Dr. Vera Greaves Mrak, *Extension Specialist in Nutrition, Agricultural Extension Service, College of Agriculture, University of California, Berkeley.*

11:00 **CAN A PACKAGE BE A SALESMAN?**—Arthur C. Farlow, *Vice President and Pacific Coast Manager, J. Walter Thompson Co., San Francisco.*

WEDNESDAY AFTERNOON, August 11

Chairman: Dr. E. M. Mrak, *Chairman, Division of Food Technology, College of Agriculture, University of California, Berkeley.*

2:00 **SIGNIFICANT NEW PACKAGING MATERIALS**—Robert de S. Couch, *Head of Packaging Research, General Foods Corp., Central Laboratories, Hoboken, N. J.*

2:45 **FUNCTIONAL VALUES OF UNIT PACKAGES**—Dr. T. A. Schwarz, *Chief Chemist, California Prune & Apricot Growers Assn., San Jose.*

3:30 **PRE-PACKAGING FROM THE GROWER'S AND SHIPPER'S VIEWPOINT**—E. M. Seifert, Jr., *Partner, Holme & Seifert, Salinas, Calif.*

THURSDAY MORNING, August 12

Chairman: J. W. Pipes, *President, Mission Dry Corp., Los Angeles.*

9:30 **GETTING THE MOST OUT OF PACKAGING MACHINES**—John A. Warren, *Package Consultant, American Home Products Corp., New York.*

10:15 **THE RESPONSIBILITY OF THE SHIPPER TO PROVIDE ADEQUATE CONTAINERS**—Irving Lyons, *Traffic Manager, California Packing Corp., San Francisco.*

11:00 **TRANSPORTATION, FREIGHT CLAIMS AND DAMAGE**—W. W. Hale, *Vice President, Freight Traffic, Southern Pacific Co., San Francisco.*

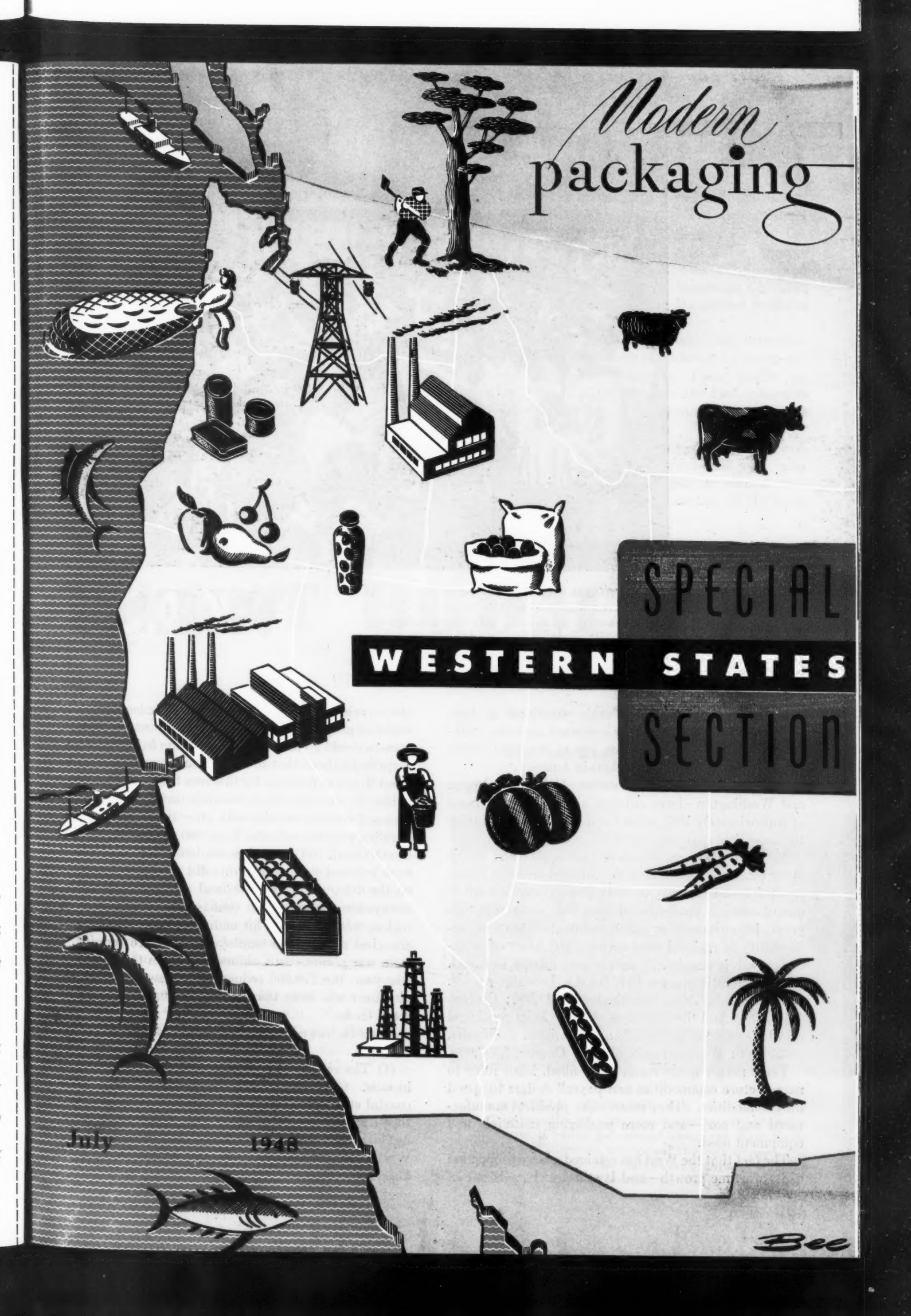
THURSDAY AFTERNOON, August 12

Chairman: G. W. Aljian, *Director of Purchasing & Packaging, California & Hawaiian Sugar Refining Corp., Ltd., Crockett, Calif.*

2:00 **THE OUTLOOK IN PACKAGING COSTS**—Harold R. Morrison, *Purchasing Agent, Union Oil Co. of California, San Francisco.*

2:45 **PACKAGING SPECIFICATIONS**—T. J. Nelson, *Packaging Engineer, Technical Department, California & Hawaiian Sugar Refining Corp., Ltd., Crockett.*

3:30 **MATERIALS HANDLING TECHNIQUES FOR COST REDUCTION**—Paul M. Hunt, *Packaging Research Division, Owens-Illinois, Oakland.*


Modern packaging
SPECIAL
WESTERN STATES
SECTION
July 1948
Bee

SPECIAL
WESTERN STATES
SECTION

INDUSTRIAL GROWTH, spurred by the war and still continuing, makes Far West an exciting new market for packaging. Pay checks go mainly for packaged goods, stimulating the Western production of packaging materials and machinery.

WEST

People make markets. People—hundreds of thousands of people—moving westward are today making of the Pacific Coast region one of the most active and promising packaging markets in America.

Since 1940 the three Coast states—California, Oregon and Washington—have enjoyed a population increase of approximately 40%, while the national growth during the same time span was only 8.9%.

No matter how much importance is attached to the other elements which have contributed to West Coast expansion—availability of cheap power, development of manufacturing know-how during the war-production years, improvement in the freight-rate situation, accessibility of regional steel supply—the heart of Western growth is people . . . people with money to spend. Population estimates for 1947 for the three states were: California, 9,751,000; Washington, 2,233,000; Oregon, 1,517,000. And the region's confidence in its continued growth is reflected by its 1950 anticipations: California, 10,270,000; Washington, 2,323,000; Oregon, 1,597,000.

These people mean needs to be filled, labor force to manufacture commodities and payroll dollars to spend for commodities. They mean more products manufactured and sold—and more packaging materials and equipment used.

The fact that the West has retained a large proportion of its wartime growth—and is still growing—is one of the surprises of the postwar period. The less optimistic regional prophets had assumed that most of the newcomers would go back where they came from. A second surprise has been that the disastrous wave of unemployment that was foreseen for this area has not taken place. While it is true that manufacturing employment dropped sharply immediately after the war, with shipbuilding payrolls reduced from 600,000 to 60,000 and aircraft from 300,000 to less than 100,000, workers who were released from war plants did not immediately go on the dole. Instead trades and services, which have always been an important source of employment in this region, were so thirsty for manpower that they rapidly absorbed most of the employees that were terminated from war plants. In California alone in the first postwar year, the 179,000 reduction in manufacturing employment was more than offset by 220,000 new jobs in retail trade.

Other factors contributing to the healthy outlook include:

(1) The region is a sound one in terms of per capita income. Characteristically, the residents of the three coastal states have enjoyed an average annual income that runs at least 20% higher than the national level. Against a national per capita average of $1,162 in 1946, Washington had $1,365; Oregon, $1,224; California, $1,508.

(2) The Western market is far from saturated. The region has never produced as much manufactured goods as it consumed. While it shipped out of the region some of its products—food and apparel, for instance—it imported thousands of dollars worth of other commodities. A prewar analysis revealed that the West produced only 1.5% of all radios manufactured in the United States, while consuming 13.5% of them The ratio between production and consumption of electrical products was 2% produced to 10.5% consumed and for farm implements, 1.3% produced against 14.5% consumed. That's the kind of market which beckons manufacturers.

(3) If the national economy takes a downward plunge, the West feels that it will be able to ride it out better than the rest of the country. This region suffered less than others during the depression of the '30s—one of the advantages of under industrialization. In the 1937-38 slump, national income dropped 9%, while the drop for Western income was only 6%.

That West Coast optimism is more than a local pipe-dream is supported by the amount of industrial construction going on and by the instances in which national manufacturers are locating either headquarters or branch plants there. It has been estimated that almost three-quarters of a billion dollars in industrial construction has been started or earmarked for the West since the end of the war. Of the new industrial building now under way throughout the country, one-fifth is taking place in the West. Los Angeles recently acquired the national headquarters for Rexall Drugs and is preparing for the westward movement of both Carnation Creamery and Prudential Life Insurance. In 1947 there was $112,817,500 invested in new factories in Los Angeles, chiefly by Ford Motor Co., Lambert Pharmacal and American Radiator.

Branch-plant establishment in Los Angeles since the end of the war includes the following of particular interest to the packaging field: Ball Bros., Bemis Bro. Bag Co., Continental Can Co., Flint Howard Ink Co., Hazel-Atlas Glass Co., Taylor Fibre Co., Tayp-Rap Corp., United Stoneware Co. (Western Process Equipment Division), Purepac Corp., Overmyer Mould Co. Meyercord Co. and the Atlantic Varnish Co.

San Francisco is to be the site of a $30 million steel and tinplate rolling mill operated by Columbia Steel Co.

In Portland 173 new manufacturing establishments began operations in 1947. Branch plants established there include those of Carborundum Co., Continental Can Co., Dad's Root Beer Bottling Co., Korinek Laboratories, Milprint, Inc., U. S. Plywood Co.

Seattle reports $35 million in industrial construction in 1947, with special activity centering in the machinery and chemicals fields. Pacific Car & Foundry Co. has expansion plans involving the manufacture of large quantities of refrigerator railway cars. Construction plans have been announced by Monsanto Chemical Co., Reichhold Chemical Co. and Manganese Products Co.

For the packaging industry, West Coast expansion has specific meaning in terms of a market for new packaging materials and equipment. Focal points for packaging interest in the area are the food industries and the new manufacturing activities in the Pacific Northwest.

The West Coast States have always been top agricultural states. Mild climate and fertile soil have, year after year, yielded bumper crops. A natural concomitant has been the concentration here of the food-

COAST BOOM

Beyond the Rockies is one of the fastest-growing markets for consumer products and packages that contain them

PHOTO COURTESY SEATTLE CHAMBER OF COMMERCE.

SEATTLE FROM THE AIR gives a striking impression of the commercial and industrial growth which has spread along the West Coast from California northward through Oregon and Washington. The Northwest today is one of the most important sectors in the packaging field.

PHOTO COURTESY LOS ANGELES COUNTY CHAMBER OF COMMERCE.

CALIFORNIA PRODUCE, a tremendous user of packaging materials, is exemplified by this view of a section of the Los Angeles Wholesale Produce Terminal—the nation's biggest single shipping center for fresh fruits and vegetables.

processing and packing industries. Western farming and Western food industries have reflected the same expansion during recent years which characterizes other activities in the area.

Value of farm production in the State of Washington for 1947 reached a total of $663,545,000, surpassing all preceding years and more than tripling the 1939 figure of $159,752,000.

The value of crops in the State of Oregon for 1947 exceeded $400,000,000, as compared with $317,000,000 in 1946.

In both of the Pacific Northwest States, a sizable portion of the fruit and vegetable crop is packed for national marketing. Oregon alone has 844 food-processing plants.

In 1946 the states of Washington and Oregon jointly reported a pack of 25,641,233 cases of 24 No. 2 cans each of fruits and vegetables. In addition, 299,000,000 lbs. of frozen foods were packed.

California—although less than 10% of that state's population lives on farms—vies with Iowa as the leading agricultural state in terms of cash farm income. Its field, fruit and truck crops have the highest value of those of any state in the nation. Nearly half of the country's fruit output, as measured by cash farm returns, comes from California, as does one-fourth of the vegetables. In addition, California has virtually a national monopoly on some of the specialty crops, such as lemons, grapes, figs, olives, apricots, prunes, dried peaches, almonds, walnuts, dates, artichokes and lima beans.

The manufacture of food and beverages, in which California surpasses all other states in the nation, represented a product value in 1946 of $2,366,200,000, as compared with $897,762,000 in 1939.

Spokesmen for the canning industry in California claim that nearly one-third of all fruit and vegetables canned in the United States emanate from that state. The 1946 pack of 82,000,000 cases compared with the prewar 1941 figure of 46,000,000.

Figures for the quick-freezing industry in California are not as current as those for canning, but expansion in this field is indicated by the 214,606,000 lb. output in 1945, as compared with only 13,652,000 lbs. in 1940.

It is estimated that the Pacific Northwest area possesses one-fourth of the total developed and potential hydroelectric power in the United States. At the present time, the combined capacity of the private, municipal and government power systems, which have been integrated into a vast Northwest power pool, is over 1,000,000 kilowatts, according to the Portland Chamber of Commerce. The result has been that, in large blocks, energy can be sold to factories at a cheaper rate here than anywhere else in the country.

Cheap power is most meaningful to the light-metals industries. Hydroelectric development in Oregon and Washington explains why, although before the war not an ounce of aluminum was manufactured in the West, today at least 10% of national production comes from these two states. It explains, too, why 68 of the 173 new manufacturing operations locating in Portland during 1947 were in the metalworking field.

Industrial payrolls in Oregon increased from $178,947,208 in 1940 to $549,838,400 in 1947. In Washington a 105% increase in industrial payrolls was reported between 1940 and 1946.

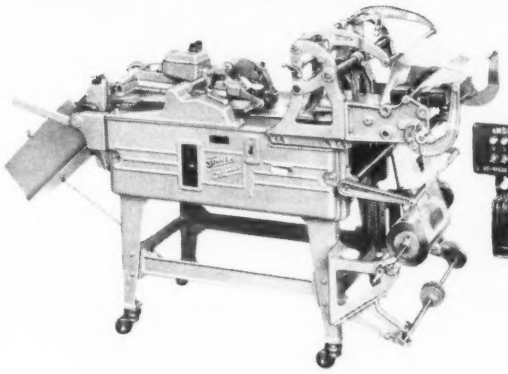
Although it did not have the direct impetus of new power resources, California manufacturing also expanded during this same period. Its total for manufacturing wages and salaries in 1946 was $1,765,000,000—more than three times the 1939 amount. Value of product for its manufacturing industries increased from $2,789,300,000 in 1939 to $7,443,600,000 in 1946.

This industrialization boom explains the current increase in the production of packaging machinery and materials in the Western area to handle the products of that area.

A BIG REASON for the mushroom growth of the Pacific Northwest as an industrial center, both during and since the war, is the availability of low-cost hydroelectric power. Shown here is Bonneville Dam, one of the major sources.

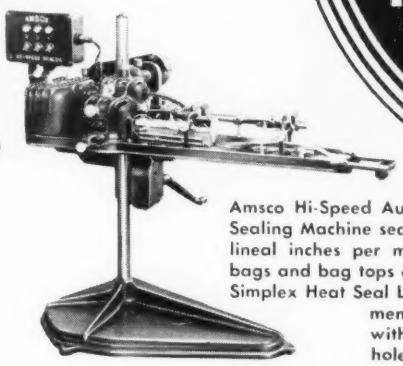
PHOTO COURTESY PORTLAND CHAMBER OF COMMERCE.

BAG MAKING



Simplex automatic, heat-sealing, bag-making machines, will turn out up to 80 bags per minute from roll stock of any of the popular thermoplastic coated, or laminated materials. Bags made in flat or gusset types up to 12" wide and 20" long, using rolls up to 30" in width.

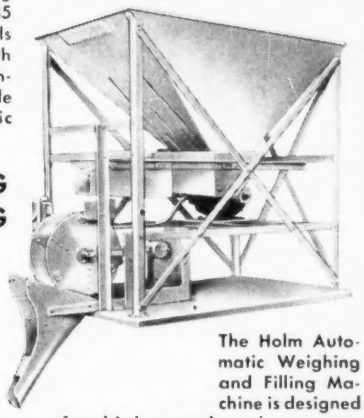
BAG SEALING



Amsco Hi-Speed Automatic Bag Sealing Machine seals up to 385 lineal inches per minute. Seals bags and bag tops applied with Simplex Heat Seal Label Attachment. Available with automatic hole punch.

Complete PACKAGING SERVICE

WEIGHING and FILLING



The Holm Automatic Weighing and Filling Machine is designed for high speed and accurate weighing and filling of free-flowing materials, such as powders, granules, and candies.

In the packaging field, as in many others, buyers like the "one-stop" super-market type of service—and that is exactly the type of service SIMPLEX renders in the 11 Western States.

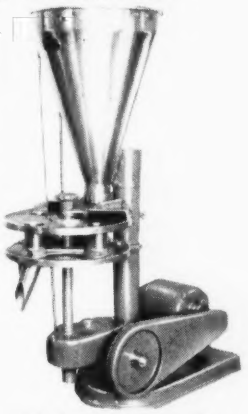
SIMPLEX not only provides its own high speed, automatic bag-making machines, but it sells and services other proven equipment of prominent manufacturers for weighing and filling; for volumetric filling; for bag sealing; and for wrapping.

Shown on this page are five of the popular machines which SIMPLEX offers to Western manufacturers and distributors of packaged goods, sold in bags or wrappers made of paper or any of the thermoplastic coated or laminated materials.

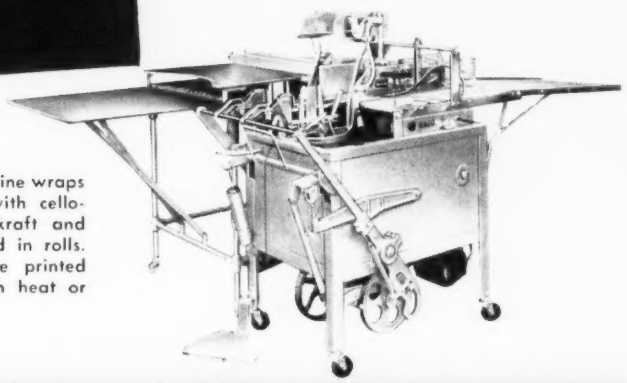
When you have packaging problems, you will get fast, intelligent and complete service when you direct your inquiries to SIMPLEX.

VOLUMETRIC FILLING

The Whiz-Packer fills all types of containers from the smallest up to 5 pounds with powders, granules, crystals, seeds, spices, nuts, etc., at speeds up to 48 per minute. It is fast, quiet, accurate and inexpensive.



WRAPPING MACHINES



The Miller Wrapping Machine wraps packages of all types with cellophane, waxed papers, kraft and similar materials supplied in rolls. It automatically cuts the printed wrappers and seals with heat or glue.

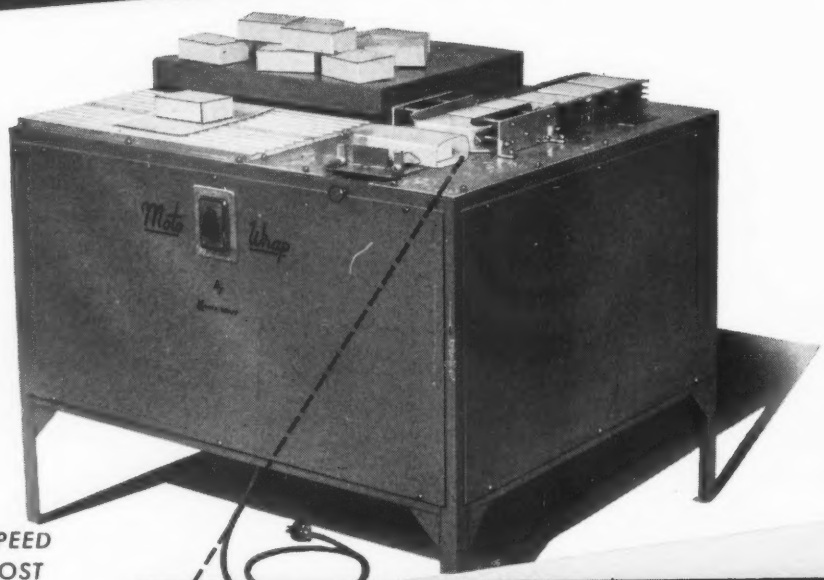
Simplex

WRAPPING MACHINE COMPANY

534 23RD AVENUE · OAKLAND 6 · CALIFORNIA

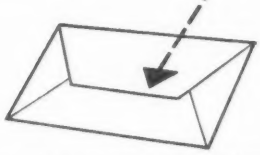
KNAPP-WRAPP PRESENTS . . .

"Moto-Wrap"



HIGH SPEED
LOW COST
Available Now!

1948's Finest, Fastest, Slickest Semi-Automatic WRAPPING MACHINE



ENVELOPE-TYPE FOLD

This is the neat end-seal made by the MOTO-WRAP.

★

SPECIFICATIONS

Occupies floor space of 40" by 46" with frame height of 34". Supported by welded angle iron legs with 12" clearance from floor.

Geared head reduction motor supplies motive power.

Has convenient starting button instead of foot treadle.

Mechanism completely enclosed by steel panels.

HERE'S the answer to the packaging industry's demand for a low cost, high speed, efficient, semi-automatic wrapping machine . . . one that produces slick, taut, neat wraps comparable with the costliest automatic machines. The Knapp MOTO-WRAP has everything! STREAMLINED DESIGN . . . easy to keep clean, easy to operate. AUTOMATIC SHEETER . . . cuts single sheets and presents them to operator on ideal pick-up surface. ECONOMY . . . uses rolls of wrapping material instead of costly sheets. ENVELOPE-TYPE FOLDS . . . neatest kind for packages. INTERCHANGEABLE HEADS . . . can accommodate various sized packages as follows: 4"-12" long; 2"-10" wide; ¾"-3½" high. HIGH SPEEDS . . . up to 1200 an hour and yet requires less motions by operator. FEWER MOVING PARTS . . . a minimum of maintenance. And your finished product becomes a KNAPP TAILOR-MADE WRAP, there can be nothing finer. Act now! Write now for full details of this amazing achievement in packaging — the Knapp MOTO-WRAP!

Send sample of your product to:

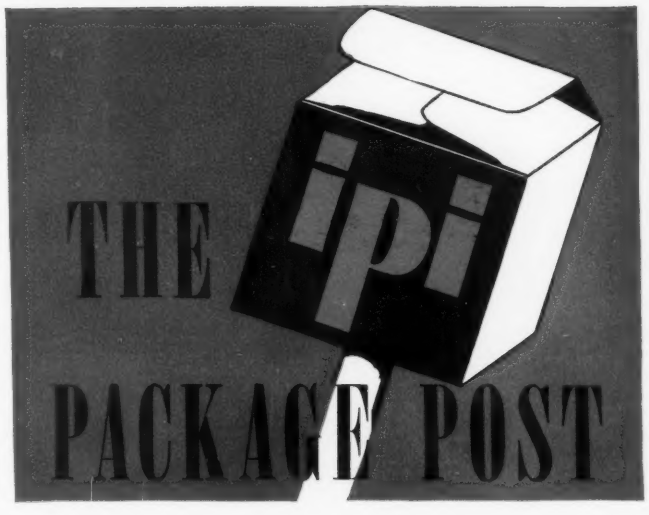
Don't just wrap — "KNAPP-WRAPP"

KNAPP-WRAPP

KNAPP MANUFACTURING COMPANY
2568 San Fernando Road, Los Angeles 41, Calif.

Package Beauty Is Only Skin Deep

Did you ever think of how many packages owe their beauty and sales appeal in large measure to the thin film of printing ink that decorates them? The more you think about it the more you realize that the selection of printing inks should be a part of package printing from the outset. That's the sure way to select colors which can be reproduced with printing inks resistant to handling, sunlight, moisture, and deteriorants.



If It's Wise You'd Be— Try This Quiz, Number 3

Stoo-dents! Are these statements true or false? 1. With the Anilox system, ink distribution on aniline-type presses is subject to no variation regardless of press speed or ink viscosity. 2. Accurate description of colors is necessary because people from childhood on develop personal ideas about color. 3. You can obtain free a *pocket* file of 26 specimens of package colors. All statements are true; see stories below.

INTERNATIONAL PRINTING INK • EMPIRE STATE BUILDING, NEW YORK 1, N. Y. • ADDRESS INQUIRIES DEPT. MP7

GOING TO PROVIDENCE? HAVE A HANLEY BEER— AND A LOOK AT THE CASE!

"Quality Guarded Since 1876," is a slogan of The James Hanley Co., of Providence, R. I., and it applies as much to the construction and printing of its red and blue, heavy duty bottle cases as to its ale and lager. Cases are made by the Container Corporation of

America, and are printed with IPI Vaposet inks. We wish you could see the brilliance of the colors, especially the blue!

WE THANK HONEY AND HANK

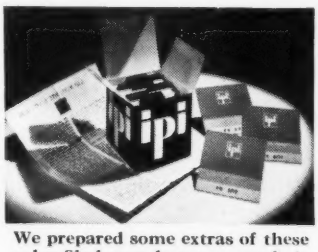
We're grateful to the N. Y. Herald Tribune for this cartoon by Seeg which so pleasantly accents the personal nature of reactions to color.

POCKET FILE OF 26 PACKAGE COLORS TO BE IPI SOUVENIR AT WESTERN PACKAGING SHOW

A miniature file of popular package colors in a unique spectrum box will be our souvenir of the IPI Exhibit at the Western Packaging Exposition next month.

The file, which is only 2½ inches square, contains 26 package colors printed on both machine coated folding box board and patent coated board—52 samples in all! Each color is marked with its A.S.A. specification. Also included is a folder of information about printing inks for packaging.

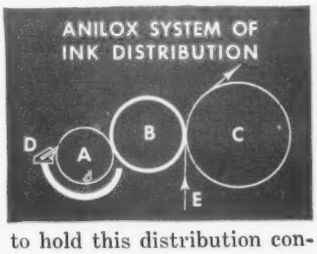
Visit the IPI Booth, see hundreds of different types of package printing, and get your Package Color File.



We prepared some extras of these color file boxes, but our supply is limited. Like one? Write early.

CONTROLLED DISTRIBUTION OF INK FEATURE OF IPI ANILOX SYSTEM

Basic idea of the IPI Anilox® system is to improve and control conditions on aniline-type presses to produce precision in ink distribution and



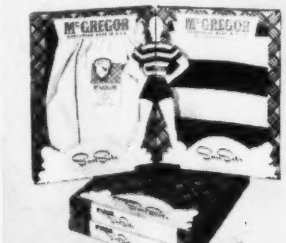
to hold this distribution constant regardless of press speed or ink viscosity.

To do this, we rebuild the press as shown. Cylinder (A) is a deep-etched, metal rotogravure cylinder whose recesses always take up an unvarying amount of ink. Excess is wiped off by doctor blade (D), and ink in recesses is transferred to plate cylinder (B). (C) is impression cylinder, (E) web.

NOVEL PACKAGES MAKE AN "OPEN BOOK" OF McGREGOR SUN SUITS

The novel packages for McGregor "Sun Sets" sun suits which you see illustrated below are hinged in the middle so they will stand up together like an open book. The hinges are tabs on one box which fit into slots on the other box.

Boxes were designed by Mel Gussow, Director of Visual Merchandising for McGregor. They were produced by the Blum Folding Paper Box Co., Brooklyn, from a construction design by Mike Schwartz. IPI® inks were used, with specially formulated red and green producing the distinctive McGregor plaid.



HONEY AND HANK *By Seeg*

3 ways

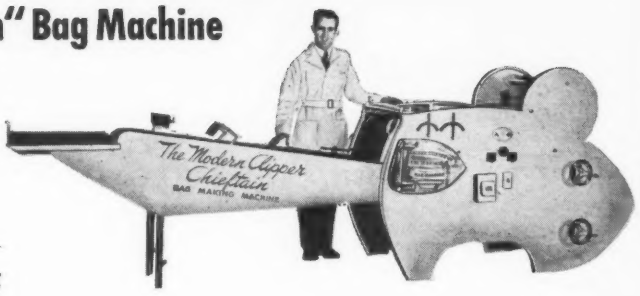
to get cellophane bags FAST & ECONOMICALLY

METHOD 1 — Use the Hi-Speed "Chieftain" Bag Machine

SPEEDS UP TO 10,000 BAGS PER HOUR!

- **Fast Changeover time**
- **For small and large quantities**
- **Low operating cost**

The "Chieftain"—new Modern Clipper machine—represents a brand-new design in bag-making machines. It makes flat and square bags of all heat-sealing materials: cellophane, Pliofilm, foil and plastics—with a speed and efficiency never before equalled. No skilled operator is needed. Easy to operate, precise and economical. Has center seam gluing and duplex bag making attachments.



Because a proper heat seal keeps out and keeps in all atmosphere, it gives you certain sift-proofing and leak-proofing. There is no seal that can compare with a heat-seal for protection . . . no machine that can rival the "Chieftain" for versatility and high-speed operation.

METHOD 2 — Order bags direct from us

Printed and plain—also sheetwraps, continuous rolls. Complete design and technical service available. Strategic West Coast location insures quick deliveries. Send us your samples and let us quote on your requirements, or consult our nearest representative.

WHICH METHOD IS BEST FOR YOU?

Write for detailed analysis of the relative value of these 3 methods in terms of your operations. Address your letter to our main office or to our nearest representative.

METHOD 3 — Combination Arrangement

It's a method that combines certain of the advantages of methods 1 and 2. Details will be outlined at your request.

Represented throughout the West by:

BLAKE, MOFFITT & TOWNE

San Francisco, Oakland, Fresno, Sacramento, San Jose, Stockton, Los Angeles, San Diego, Phoenix, Tucson, Portland, Seattle, Spokane, Tacoma and Boise.

MODERN CONTAINERS INC.

3220 E. Olympic Blvd. Los Angeles 23, Calif.

SPECIAL
WESTERN STATES
SECTION

DRIED FRUITS

Billion pounds a year from West Coast constitute half the world supply; packaging potential only half realized

LAMINATED FOIL OVERWRAP combined two objectives of continued trend to consumer-unit packaging: moisture retention and colorful surface for sales appeal. Packages for fruit include cellophane, Pliofilm, kraft bags; cartons, "brick" packs.

Complementing its vast fresh fruit and vegetable shipping and canning industry is the West Coast's big dried fruit industry. The most important producing area for dried fruits in the world, the West Coast States account for almost half of the world's supply of these products. In 1946 the dried fruit industry on the West Coast altogether produced over a billion pounds of dried apples, apricots, peaches, pears, figs, prunes, raisins, currants and dates.

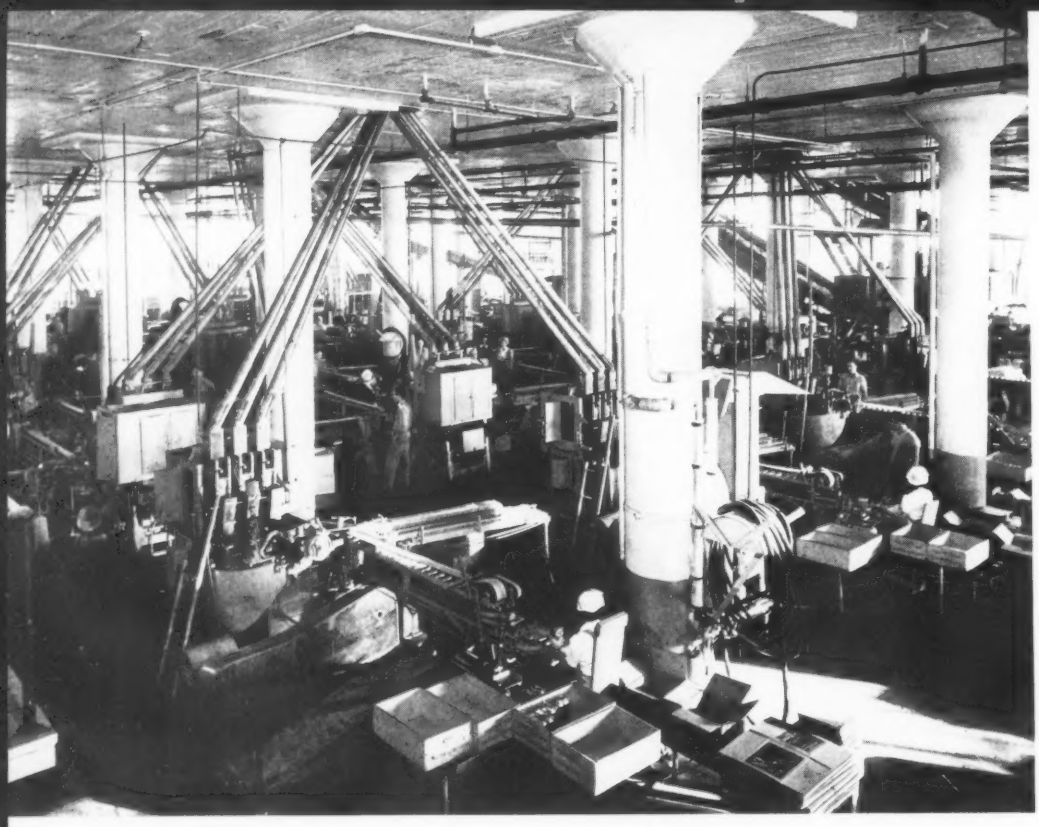
As a consumer of packaging materials, the dried fruit industry ranks with the most important of the food industries. Its annual production requires at least 40 million corrugated shipping cartons or wooden boxes and enough consumer-sized cartons, glassine, waxed and parchment paper, bags, foil, transparent films and other materials to package from 200 to 400 million consumer-sized packages. Requirements are definitely expected to increase. The dried fruit industry, like its blood brother—fresh fruits, has felt the urge toward more attractive pre-packaging for better merchandising. Activities in this direction have increased enormously since the end of the war.

Prior to the war domestic sales of dried fruits by the grocery trade were still largely in the cracker-barrel stage. Only about 40% of sales to grocers by West Coast packers was in consumer-package form. Some quantities were packaged in consumer units for retail sale by market repackers and retailers who originally purchased the fruit in bulk. The remainder of domestic sales was principally sold in 25- and 30-lb. bulk packs to the grocery trade and industrial users such as bakers and confectioners. Today, the trend away from the bulk pack is pronounced.

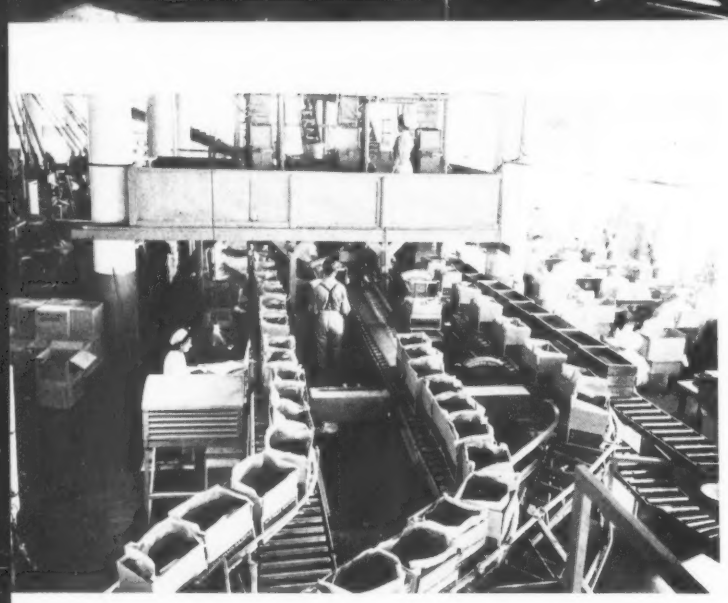
Approximately 65% of California raisins are still sold in 25-lb. bulk packages, consisting of corrugated cartons and wooden boxes, and the remainder in various types of consumer packages. Principal types and sizes of packages used are: 15, 11, 7 and $1\frac{1}{2}$-oz. cartons; 2- and 4-lb. kraft bags and 2- and 4-lb. cellophane bags. Of these, it is estimated that before the war over 75% of all raisins sold to consumers went to market in plain kraft bags. Since 1941, however, the carton packs have made substantial increases despite continued shortages of automatic packaging equipment. In 1944 several firms began securing such equipment and the amount of dried fruit packed in cartons since that year increased 25%.

The principal consumer packages for prunes are 1- and 2-lb. cartons—usually triple-ply with liner, chipboard and overwrap—and kraft bags. A considerable quantity of specially treated papers, latex-base films and foils are used as liners or primary containers in conjunction with cartons in order to reduce moisture loss and prevent insect infestation.

Cut fruits such as peaches, pears and apricots are packed principally in 11-oz. to 1-lb. cartons with inner and outer wraps. Some of these fruits are also put up in cellophane, Pliofilm and kraft bags and in "brick"



AUTOMATIC PACKAGING has made big strides—but much more is needed. This is the packaging floor of Sun-Maid Raisin Growers, Fresno, showing a battery of automatic weighing, packaging and check-weighing units for 15-oz. raisin cartons.



BULK PACKAGE of 25 lbs. still accounts for 65% of California raisin pack and is important for bakery and institutional use. Sun-Maid uses a corrugated carton with liner, handled on automatic bulk packaging and weighing equipment.

packs employing a paperboard base and cellophane overwrap.

Dried figs, of which the tonnage is divided about equally between 30-lb. bulk packs and consumer packages, are largely marketed to the grocery trade in packaged form.

At the present time quite a large volume of dried packaged figs is going out in cellophane packs of various sizes. These range from a 6-oz. to a 1-lb. brick pack, the most popular of which is the 8-oz. pack. In addition, attractive 3- and 5-lb. wooden trays of jumbo pulled Calimyrna figs are packed for holiday gifts. Recently carton packs with foil overwraps have been introduced with considerable success.

Fifty per cent of the date crop in California is put up in consumer packages by packers in the producing area. An additional 15% is packed by repackers and retailers who do their own packaging. The major packs for the grocery trade are an 8-oz. cellophane-wrapped carton, an 8-oz. cellophane bag and a 14-oz. cellophane-wrapped berry basket. Fancy packs used largely in department stores for sale as gift packs consist of a 3-lb. tin, 3-lb. lithographed carton and 14-oz. layered cellophane-wrapped tray.

Various assorted packs of dried fruits for gift sales are put up by commercial repackers in major cities. These consist mainly of 1-to-3-lb. layered cellophane-wrapped wooden and paperboard boxes.

Practically all dried apples are sold in 10-, 15-, 25- and 50-lb. bulk packs to bakers, processors and institutional users. Prior to the war, some firms produced 4-, 8-, 10-oz. and 1-lb. cellophane packs. However, volume was small and the war terminated such packs. Some dried apples are now being sold in packaged form in combination with packages of flour for making apple pies, such as General Mills Pyequick product.

Packaging operations in the dried fruit industry range from complete hand packaging to fully automatic lines employing the most modern equipment for automatic weighing, filling, sealing and wrapping. Machinery has been difficult to obtain and much of it, the packers say, is too slow for volume operations. Consequently, many packers have retained hand filling and packing methods until appropriate equipment fully meeting their requirements is developed and available. Dried fruits are an obvious item for completely automatic packaging

and it is expected that the shift from bulk to packaged goods will be greatly accelerated when automatic equipment is more readily available.

Dried fruits require a package that is moistureproof, waterproof and verminproof and that can be hermetically sealed by heat sealing. The natural fruit syrup must be retained in the product without leaking through the package. In addition, dried fruit packers, recognizing the merchandising values of packaged goods, desire a package with sales appeal which will successfully compete with other packaged foods in the retail store.

Toward these ends, several new packages have been developed for dried fruits since the end of the war. One of the most significant of these, an all-paper machine-made pack with exceptional moisture-retention qualities, adopted by the Richmond-Chase Co., was described in the article "Moisture Locked In" in MODERN PACKAGING for March, 1948.

The moisture-retention features of Pliofilm have been utilized by packers as liners for cartons and bags and as bags alone. Attractively printed in colors, some with a cut-out window and carrying the packer's sales message, the new bags are a startling contrast to the drab kraft bags formerly used.

A number of new types of cartons are being used, some of them top and bottom sealed with waxed manila-board interiors in place of the conventional end-lock cartons. Cartons are being overwrapped with foil, transparent films, waxed paper and other materials in order to retain moisture.

Efforts are being made in the industry to develop freer-flowing packs. Wax-coated cartons are being used for raisins to prevent the collection of residue in the package and to give the consumer a freer flowing of the product after the package is opened. The fig industry is developing a "flow" pack to supplement or eventually replace the brick or layer type of pack.

A novel, well-conceived packaging program indicative of the type of packages and equipment required to package dried fruits successfully is found in the raisin-packaging operations at the plant of Fewel Bros. Co., Fresno, Calif.

Recognizing the need for a protective package capable of delivering raisins to the consumer in perfect condition and at the same time possessing consumer appeal, Fewel Bros. developed two packages. The first, a 15-oz. package overwrapped with either colorfully printed foil containing a natural-color reproduction of raisins in a "shamrock" cut-out—the firm's trademark—or cellophane also printed with a full-color photograph of the product.

The second type of package is a 1½-oz. package which conforms in shape and size to a package of cigarettes. Attractively printed with the shamrock trademark and green, yellow and red colors, the package is overwrapped with a clear, moistureproof cellophane with a tear tape. This package is sold from two display cartons: one, a 24-pack display carton for grocers' shelves and display cases; the other of cigarette-carton size holding 10 packages, designed for cigar-and candy-counter sales.

Two packaging lines are used, one for the 15-oz. pack and the other for the 1½-oz. carton. Both are automatic, continuously operating lines. For the larger package, a carton feeder and bottom sealer opens the cartons and seals the bottom flaps at a speed of from 60 to 100 cartons per minute. A six-scale automatic net weigher and filler is used; the top flaps are sealed and the carton is overwrapped by a wrapping machine. The 1½-oz. cartons also are set up, filled and wrapped all completely automatically.

With its billion pounds of product, now only one-third packaged, the dried fruit industry's requirements for packaging in the form of machinery, cartons, film, foil and paper products can easily double in the next five years, observers predict.

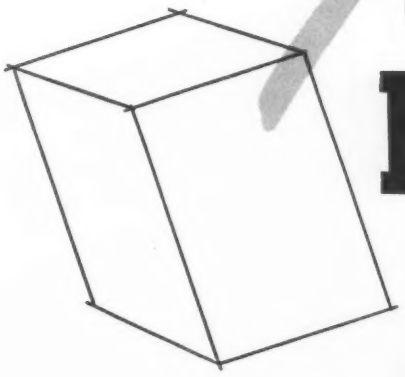
PLIOFILM, because it retains moisture, is increasingly important in many types of dried fruit packaging—as a straight bag or wrap, or as a laminant in bags, with or without windows.

COURTESY GOODYEAR TIRE & RUBBER CO.

NEW EQUIPMENT which the dried fruit industry welcomes is exemplified by this continuous rotary heat sealer designed to seal Pliofilm bags at the rate of 296 in. per minute, shown in use at the California Packing Corp.

PHOTO COURTESY RALPH CHAFFEE & CO.

Folding PAPER BOXES



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PRODUCE

SPECIAL
WESTERN STATES
SECTION

Thirteen billion pounds a year flow

from four Western states—most of it still only bulk packaged

The astronomical distance of the earth from the sun, the speed of light, our national debt, are amazing figures to the average mind. But none are more amazing, more startling, than those of an everyday, taken-for-granted occurrence in our own backyard—the West Coast's phenomenal production of fresh fruits and vegetables.

Thirteen billion pounds—not counting that which stays at home—of the most vital foodstuffs known to man are shipped out of the borders of the four Western states of California, Arizona, Washington and Oregon each year. Forty-four thousand pounds are loaded in refrigerated cars and shipped every second.

Indeed a land of plenty, the four Western states account for 41% of the nation's commercial car-lot shipments of fresh fruits and vegetables. Each year the loading of a total of over 400,000 car lots of oranges, apples, lettuce, peaches, pears, grapes, assorted melons, carrots, potatoes, tomatoes and almost every known fresh fruit and vegetable culminates a packaging operation which, for sheer volume, is unequalled by any food packing operation in the world. Approximately 100 lumber mills in the Western states supply more than 1 billion board feet of lumber for box materials. In addition, thousands upon thousands of pounds of paper, paper products, nails, wire and other materials are used for protective packaging of the fruit and vegetable crop for distant shipping.

Shipping packaging in the West Coast fruit and vegetable industry has been characterized by its almost exclusive devotion to wooden containers. Relying mainly upon distant markets for distribution of its produce, the industry requires a strong, protective package which can withstand the vigors and exacting conditions of rough handling through numerous marketing channels.

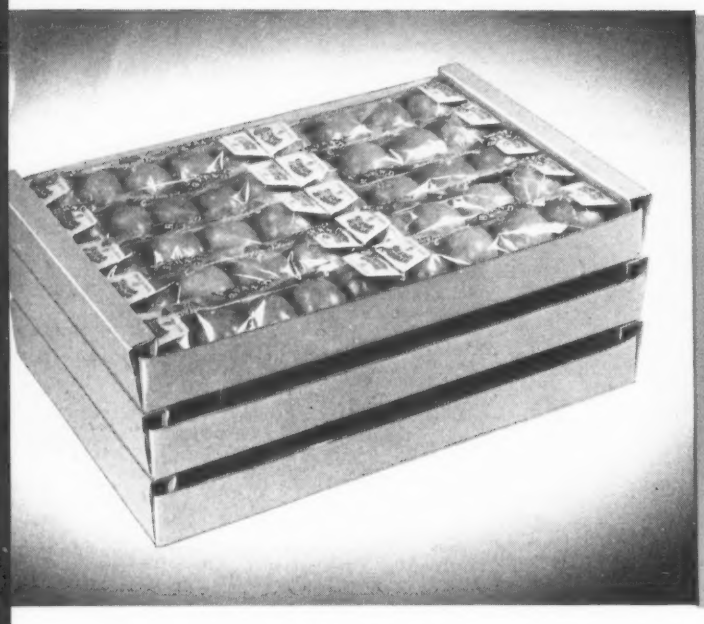
With but few exceptions, Western produce is predominantly packed in bulk quantities ranging in weight from 30 to 80 lbs.

Some commodities such as citrus fruits, apples and pears are individually wrapped in specially treated paper. The fruit is additionally protected in the box with paperboard pads, collars or inner linings. Such products as lettuce, carrots, broccoli and others are now packed with wet-strength paper to retain moisture and maintain freshness.

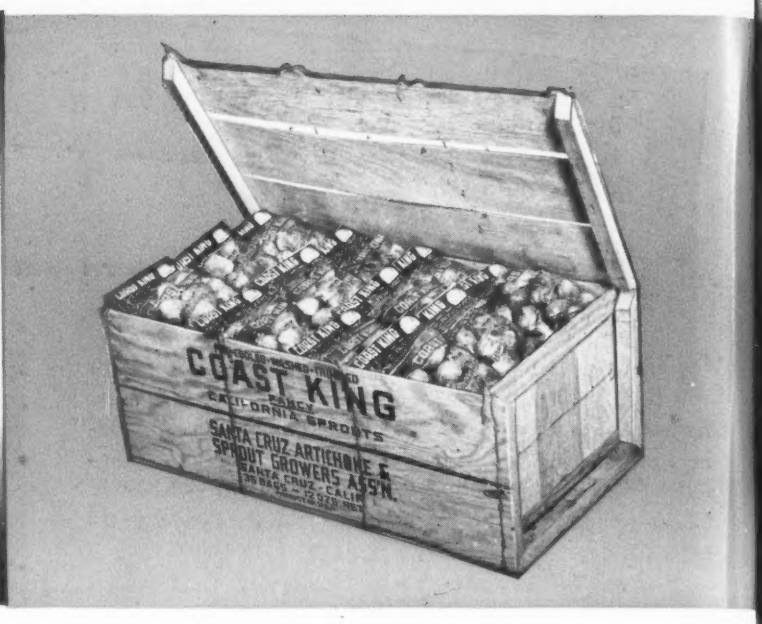
Among the wooden containers most commonly used are the Los Angeles or Western lettuce crate for carrots and lettuce, Northwest apple and pear boxes, Western

LETTUCE PACKING at Salinas, Calif. Trimmers are handing trimmed heads to packers. Wet-strength-paper crate liner and paperboard collar merchandising grower's name are recent improvements added to packaging operation. PHOTO COURTESY GROWER-SHIPPER VEGETABLE ASSN.

WELL-ENGINEERED conveyor lines, packing and weighing stations characterize mass operations in California's huge produce packing sheds. Here grapes are sorted and packed in wooden boxes. PHOTO COURTESY FOOD MACHINERY CORP.



CALIFORNIA TRAY CRATE, an ingenious construction of corrugated board, is used for several pre-packaged commodities, principally tomatoes. Trays are overpacked in a wirebound wooden sleeve for shipment.



SHIPPER PRE-PACKAGING, with strong display of grower's name and brand, is well established in brussels sprouts. This brand uses printed cellophane bags plus saddle label, ships in new wirebound veneer crate instead of bulge pack.

cantaloup crates, California nailed citrus-fruit boxes (as distinguished from the Florida wirebound box), the lug box for tomatoes, grapes and miscellaneous fruits, and the California standard pony crate for cauliflower. Generally absent from Western producing areas are barrels and tub bushel baskets used widely in packing Eastern fruits.

The use of burlap, cotton or paper bags on the West Coast has up until recent years been restricted to 50- and 100-lb. bags of onions and potatoes. Some quantities of carrots and cabbage have also been packed in bags of these sizes, as were oranges during the period of the war.

Of interest in the development of packaging of fruits and vegetables on the West Coast has been the rapid growth during recent years of the fancy fruit gift package or mail-order business. This type of operation grew enormously during the war years and has continued its growth to date. Fruits most frequently packed in gift packages are Washington State Delicious apples and winter pears of the Comice and D'Anjou varieties.

These packages usually consist of an attractively printed and colored paperboard carton, containing from nine to 12 extremely large pieces of fruit individually wrapped in metal foil or paper and embedded in colored shredded tissue. The package is also embellished with brightly decorated banners, wraps, liners, curtains and collar.

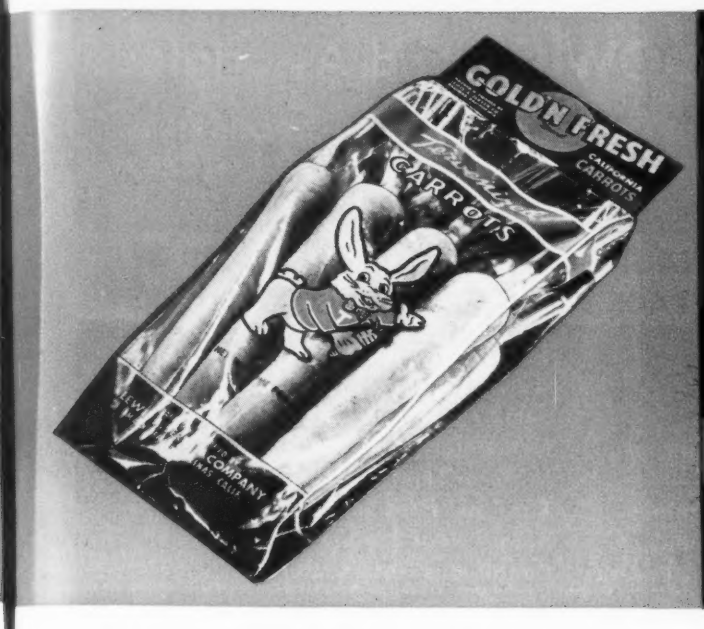
Well packed and merchandised, these very attractive packages possess the elements of successful pre-packaging in the fruit industry. Quality control, unit packaging, brand identification and advertising are embodied in the operations of packers. Fruit of large sizes difficult to move in regular commercial channels have been successfully sold through the use of modern packaging and merchandising devices and are gaining popularity as gift items.

Several developments have recently occurred which will greatly influence the trend of produce packaging on the West Coast.

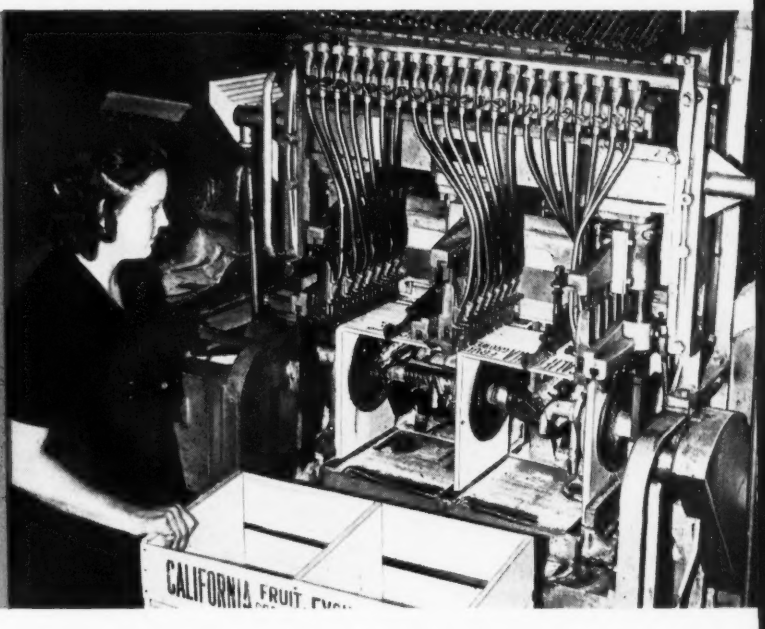
The first of these has been the noticeable shift away from the "bulge" pack. This method of bulging the contents of produce packed in wooden containers so that lidding can only be accomplished with hydraulic nailing units has resulted in terrific bruising of the product and vast losses to subsequent handlers and retailers. The bulge pack is prevalent throughout the industry and exists as an aftermath of severely competitive depression-day selling when the heaviest package had the most appeal.

There are now in use several means of eliminating the bulge pack, including the Friday molded pulp container for apples; a new wirebound wood veneer box; the Tray-Crate, made up of three or four corrugated trays in a wirebound wooden sleeve, and the new light-weight nailed wood box developed by the Western Growers Assn. and the Wooden Box Institute.

A second development has been the very recent growth of the packaging of citrus fruits in consumer-sized open-mesh bags. This development was born of two vital reasons: (1) the growth of self-service in retail stores and the resultant demand from retailers for pre-packaged citrus and (2) the predominance of unusually small sizes of oranges in California during the past three years presented a merchandising problem to shippers. Last year, it is estimated, approximately 15 million 5- and 7-lb. open-mesh bags were packed in California. The quantity of bags which would be re-



BRAND CONSCIOUSNESS among Western growers is evidenced by this brightly designed cellophane bag adopted by the Lewis A. Terven Co., Salinas, for pre-packed carrots. PHOTO COURTESY THE DOBECKMUN CO.



CRATE-MAKING MACHINE is fully automatic, turns out 500 orange crates per hour. The West Coast produce industry uses a billion board feet of lumber a year, supplied by 100 Western lumber mills. PHOTO COURTESY FOOD MACHINERY CORP.

quired to pack just 25% of the California orange crop would run almost as high as 150 million bags annually.

A third factor of major importance in packaging is the unmistakable trend toward consumer-unit pre-packaging of practically all types of fresh fruits and vegetables.

While still of negligible magnitude in most crops, pre-packaging is not lightly considered by shippers. Beset with large crops and the renewal of competition in the sale of produce, shippers realize the necessity for vigorous merchandising effort if their crops are to be moved at profitable returns. The shipper is also aware of the vast changes which have taken place in the modern retail store.

The expansion and growth of self service, development of the refrigerated display case, high retail operating costs, and mass, high-volume methods of merchandising have made the advent of pre-packaged produce a certainty. Only time is necessary before the shift to pre-packaging of other items becomes as apparent as it now is in California oranges.

Numerous examples of successful pre-packaging operations can be found on the West Coast. At the country's most modern tomato-packaging plant at Nogales, Ariz., Walter Holm is pre-packaging tomatoes and shipping them all over the country.* The Santa Cruz Artichoke & Sprout Growers Assn. is successfully packaging brussels sprouts in 12-oz. film bags. The country's spinach pre-packaging operations can be found at the Sunny Sally Vegetable Growers in Los Angeles.

The Consumers Apple Packette Co., located at Wenatchee, Wash., is packing apples in 2-lb. consumer cartons and this year shipped over 1,500,000 such cartons to Eastern markets. Franklin Gindick of Los Angeles last year packaged 75,000 1½-lb. consumer cartons of plums and this year anticipates packaging over 500,000. Lewis A. Terven Co. of Salinas is packaging carrots in 1-lb. cellophane bags. Stadelman Fruit Co. of The Dalles, Ore., is pre-packaging cherries in 1-lb. units; Holme & Seifert, celery; Reuben Benz of Yakima, Wash., 5-lb. bags of apples; Day & Young of Santa Clara, Calif., cherries; Palmer C. Mendelson Co., apricots and plums, and Zaninovich Bros., grapes, just to mention a few of the leaders.

Urgently required for pre-packaging is high-speed packaging equipment and development of automatic filling, weighing and sealing equipment. When such equipment is available, rapid progress will be made.

It is often stated that if pre-packaging is adopted for an appreciable percentage of the West Coast fresh produce industry, the package suppliers will be unable to meet the demand for materials. This statement is not far fetched when one considers the 13 billion pounds of produce which is annually shipped from the four Western states.

While the wooden box will probably retain its position as the major shipping container, there will be vast requirements for huge quantities of corrugated board, folding cartons, paper products, transparent films, metal foils, cotton and paper bags, plastics and other packaging materials and closures. Drastic changes in packaging machinery and methods will follow and the ingenuity and engineering abilities of the packaging industries will be taxed to their utmost to meet the challenge from this last great frontier in food merchandising.

* See "Tomato Pre-Packer," MODERN PACKAGING, March, 1948, p. 108.

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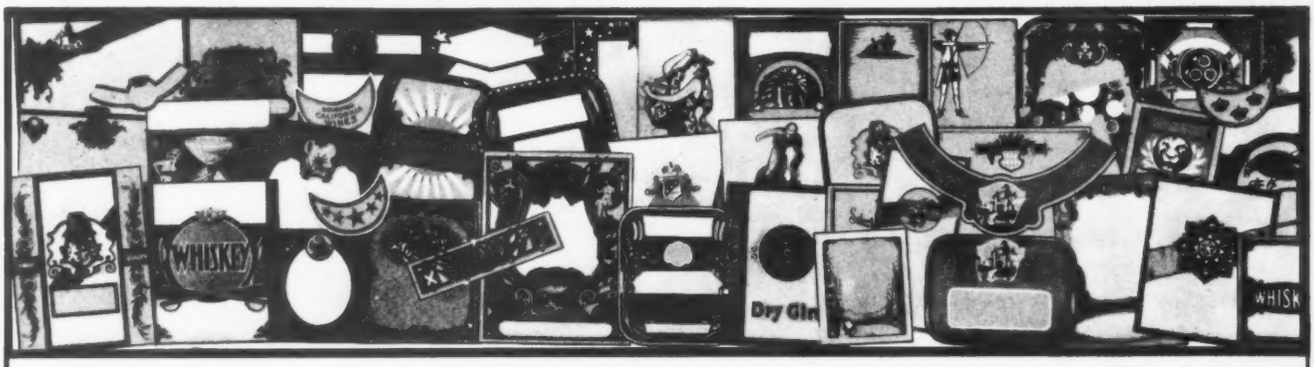

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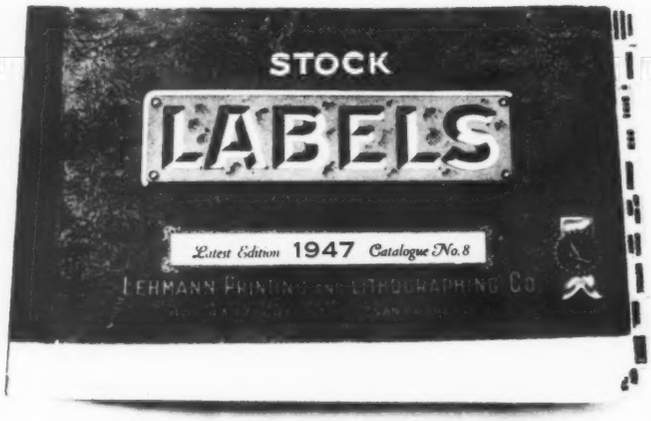

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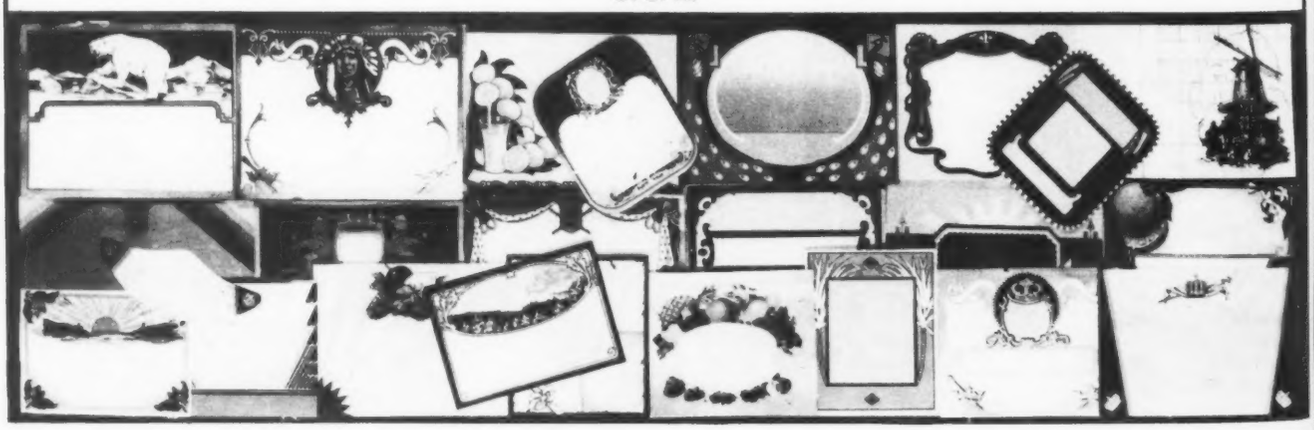

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FROZEN FOODS

SPECIAL WESTERN STATES SECTION

Northwest is the heart of this growing industry searching for better packages, lower costs and improved machinery

COMPOSITE CONTAINER, fibreboard with metal ends, is very popular for frozen food packaging on the West Coast and is frequently used with a wrap-around paper label which permits strikingly realistic reproductions of the product. PHOTOS COURTESY CAN-TAINER CORP.

During 10 years of turbulent expansion in the frozen food industry, the Pacific Coast has established itself as the largest producing region in the United States.

Last year well over half the quick-frozen fruits, berries and vegetables of the nation were packed in the three coastal states—California, Oregon and Washington. Today the freezing plants of those states constitute the major market for packaging materials in the frozen food industry. Even a quick look at the trend indicates that they will grow in importance.

In its peak year of 1945 the Far West produced 320,000,000 lbs. of frozen fruits and berries—73% of the national pack. In the past two years the whole industry has cut production sharply in the transition to postwar civilian markets, but the Pacific Coast has maintained its position of dominance.

In the long stretch from the fertile, sun-baked valleys of California to the blue-green Puget Sound country is grown almost every variety of fruit and vegetable packed for the retail and institutional markets. And from waters of the coast of Alaska down to California come a wide assortment of seafood—fish, clams and other marine products—for processing and national distribution. Oregon and Washington are heavy producers of two staples of the frozen food trade—peas and strawberries. They are also important packers of other berries, as well as beans and corn.

West Coast packers generally believe that their region will always be a dominant factor in frozen vegetables and fruits because of the more consistent and better growing conditions. They feel also that any brand to make a success has to have peas, strawberries and lima beans and, to a less extent, cut corn and green beans—all of which, they contend, grow better on the Pacific Coast.

The past two years have been rough for freezers everywhere—very rough. But there's a general feeling on the Coast that a solid basis has been laid for a gradual and lasting expansion in frozen foods. An indication of the constructive trend is the recent addition of capital for the expansion of two old, solid firms with their own retail brands—Cedergreen Frozen Pack Corp. of Seattle, in which Pacific American Fisheries has acquired control, and PictSweet Foods, Inc., of Mount Vernon, Wash., in which Trans-America Corp. of San Francisco has invested.

Marketing is the prime problem in frozen foods today and in that lies the challenge presented to the packaging industry.

Freezers have learned how to grow and pack quality. They have the capacity to expand production. Their packaging problems are relatively minor when freezing for reprocessors and institutional buyers in barrels, 30-lb. cans, and in 10-, 5- and $2^1/_2$-lb. containers. But freezers recognize there's a big, untapped consumer

UNUSUAL is this laminated, printed cellophane bag, used by PictSweet for corn on the cob. Use of a center layer of microcrystalline wax provides a water-vapor barrier.

PHOTOS COURTESY THE DOBECKMUN CO.

FULL LINE of frozen foods packed by members and associates of North Pacific Canners & Packers this year will use this colorful overwrap of high-sheen cellophane, five-color printed by rotogravure. Natural-color pictorial of product—a distinct trend in frozen food design—contrasts with the bright chrome yellow background. A 1947 test proved value of label.

market. For this, freezers want most of all from the packaging industry:

1. *Automatic packaging.* Hand filling or heat sealing of small consumer cartons holding no more than 10, 12 or 16 oz. is costly. Important strides have been made in automatic setting up of cartons, automatic filling, automatic closure and automatic application of the overwrap—all at high speed—but freezers are looking for much more in the way of mechanization to save time and labor.

2. *Better protection.* Dependable protection is essential in building wider use of frozen foods and in establishing a brand's reputation for quality. More and more, packers are coming to accept the view that frozen foods are perishable in the sense that they deteriorate through dehydration, oxidation and freezer burn, even when they have not been thawed and refrozen in distribution. Need for better sealing is one line for immediate attack. High-speed mechanized sealing often results in irregular seals, while hand sealing is too expensive.

3. *Eye appeal.* Smart labeling, smart packaging build sales. Of that, freezers are increasingly aware. New colorful labels can add sales attractiveness to consumer packages.

In a sense, the freezer's challenge to the packaging industry is this: Produce a package for the frozen food industry comparable to the tin can for the canned goods industry—a package that permits fast, automatic filling and closing, full protection of the contents and attractive labeling. Today the feeling is general throughout the industry that the ultimate package on which the industry can standardize has not yet been found.

First packages in the West Coast freezing business were generally picked up from a nearby converter of paperboard supplying the bakery trade. In the early '30s, the Birds Eye package appeared, consisting of a bag or inner liner, a waxed carton and an overwrap. Essentially that type of package predominates still, either with end opening or top opening.

Gradually experimental work on new packages, begun in a small way by freezers, has been taken over by producers of packaging materials and equipment. Some work also is being undertaken by government and university research agencies. But except for a handful of the largest national freezers, the cost of this research is too great for the individual packer to bear.

Since the industry first showed its potential midway in the war, a number of significant developments have been made in packaging.

In 1945 two manufacturers, one producing cartons and the other packaging equipment (Marathon Corp. and Food Machinery Corp.) together introduced equipment for handling retail containers at high speeds. This is now widely used on the West Coast.

In the same year a completely new type of frozen food container, developed just before the war and pro-

duced by two big national concerns as well as one Western company (Can-Tainer Corp.), was placed on the market.

This was the composite container with waxed fibre sides and metal ends. It is manufactured with one end open and is handled on the packing line much like a tin can. The advantages are several. For liquids, the container provides surer protection. More important, it makes possible automatic filling and sealing, resulting in substantial savings in cost of production.

Within the trade there is increasing acceptance of the proposition that a hermetically sealed, vacuum-packed container, such as tin or glass, provides ideal protection for frozen foods. Pacific Grape Products Co., Modesto, Calif., now vacuum packs frozen fruits and vegetables in tin, using what the trade long designated as "the old square asparagus can." The tin body is directly lithographed with attractive design.

Some specialty items and orange juice also are packed and frozen in tin. But there are two hurdles to any immediate large-scale extension of this method: The frozen food industry began with an identity that kept it away from tin and consumers have never been educated to expect frozen foods in tin; also, tinplate still is in short supply.

Probably the most significant recent development in frozen foods is the Food Machinery continuous package freezer put into operation this spring at the Santa Clara, Calif., plant of PictSweet Foods. This equipment is said to offer for the first time production-line possibilities in frozen food plants—filling, through freezer to overwrap machine, caser, storage and transit. It establishes a new package thickness—$1^1/_4$ in., slightly less than the conventional paper container—and it is not adaptable to the composite metal-end package. Its potential economies in production are expected to be an important influence in standardization of frozen food carton and overwrap.

Some research is being done in the direction of a bulk freezer for free-flowing products, such as peas, cut corn and lima beans, which could be filled into packages after freezing.

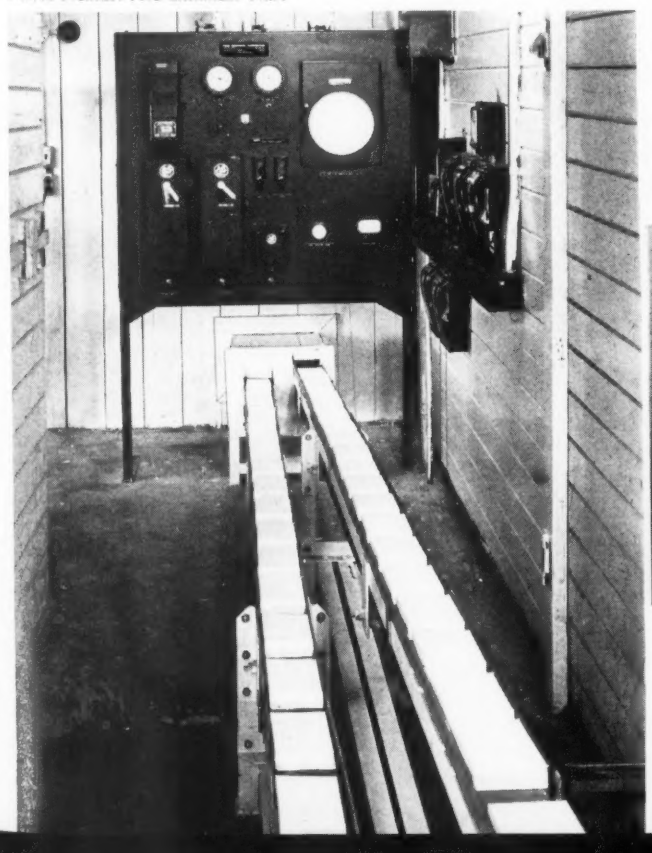
Interest has been evident in the trade, too, in the possibilities of dip coatings of microcrystalline waxes. Commercially, this has been confined so far largely to locker plants for use on customer poultry and meats. It provides an effective seal for commercial packages to be run through a coating bath after freezing, but in such treatment there is the drawback that effective labeling becomes difficult.

Another use for microcrystalline wax has been developed as a vapor barrier in a specially laminated cellophane wrapper for quick-frozen corn on the cob. PictSweet now uses this packaging (manufactured by Dobeckmun Co. and called Tritect). The wax provides a vapor barrier with almost no impairment of visibility and is believed to provide better than average protection of the corn against freezer burn. The same material is also being used as the inner bag for 30-lb. containers holding frozen juices and fruits.

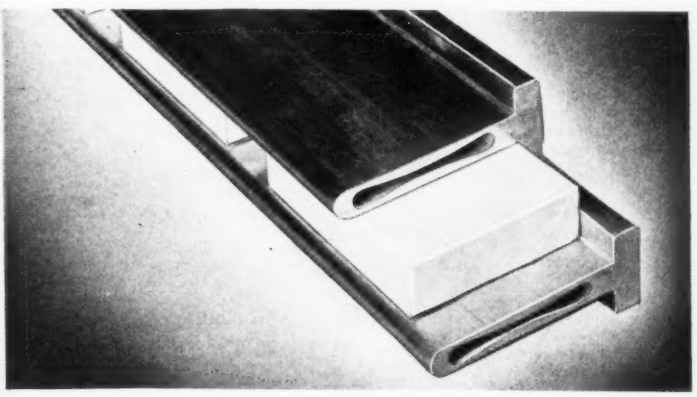
A northwest pioneer in the freezing of fish fillets, New England Fish Co., packs a 5-lb. retail carton, each containing six to nine individually wrapped fillets. This method provides a uniform retail package of fillets of widely varying sizes. Four-color printing is applied directly to the carton. Another fish freezer, North Pacific Frozen Products Co., of Bellingham, Wash., provides a cellophane window so the buyer can see the frozen product.

The Bon Marche, Seattle department store handling

PHOTOS COURTESY FOOD MACHINERY CORP.



NEW CONTINUOUS FREEZER at PictSweet plant in Santa Clara, Calif., is believed to offer important economies in straight-line production and packaging. Containers of freshly packed food are entering freezer on belt at left and return frozen at right, ready for overwrapping.



CUT-AWAY SECTION shows principle of continuous PictSweet freezer. Refrigerant flows through hollow cores of the aluminum extrusions.

a full line of frozen foods, uses a foil-lined, metal-end container for scallops and crab meat which are packed to its order.

These containers (made by R. C. Can Co., St. Louis) are of the one-pint, one-pound size with pry-open metal lids and were produced to the store's specification. Foil lining keeps the frozen food from adhering to the walls. The containers are re-usable and the store offers them as a sideline to housewives for their own deep freezing.

Consumer packages of frozen food have shown a marked brightening of labels, particularly since the war. Full-color reproductions of contents predominate and many packers have enlarged vignettes to increase sales appeal. Cedergreen Frozen Pack Corp. recently introduced a "peek-a-boo wrap," lithographed as though one corner were turned up to show the contents. Cascade Frozen Foods, Seattle, uses an all-over pattern on the overwrap, with a picture of the contents serving as background to the label.

Honor Brand (division of Stokely-Van Camp) provides a block for easy and clear price marking at the retail store. Snow Crop Marketers' label on a composite container also leaves a spot on the face for the retailer to indicate price. Price marking has been a sore point with grocers, who report that it is almost impossible to price mark legibly and quickly on some types of packages and overwraps.

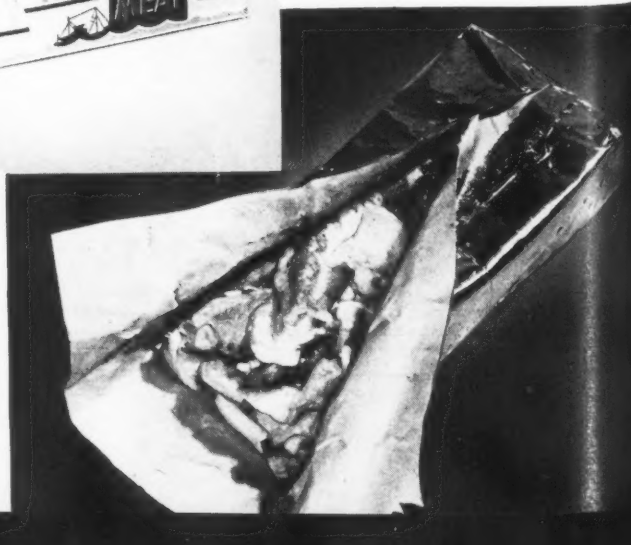
New package treatments are a phase of the increasing competition of brand lines for space in retail frozen food cabinets. This competition also tends to shove out the brands of small packers with incomplete lines and inadequate merchandising. The small packer, as a result, depends more on custom packing for his distribution, as he cannot build a retail market under his own brand when he packs only a few items.

Frozen food containers of the end-opening and top-opening style are delivered to the packing plant knocked down. Spot gluing is used in the set-up. Good adhesives are available for spot gluing on hot-waxed cartons where there is a greater penetration of wax and less on the surface. But for high-speed automatic setting up of the boxes, manufacturers report a need for improved adhesives for the cold-wax carton where the box, dipped in a cold bath immediately after waxing, has a heavier surface coating.

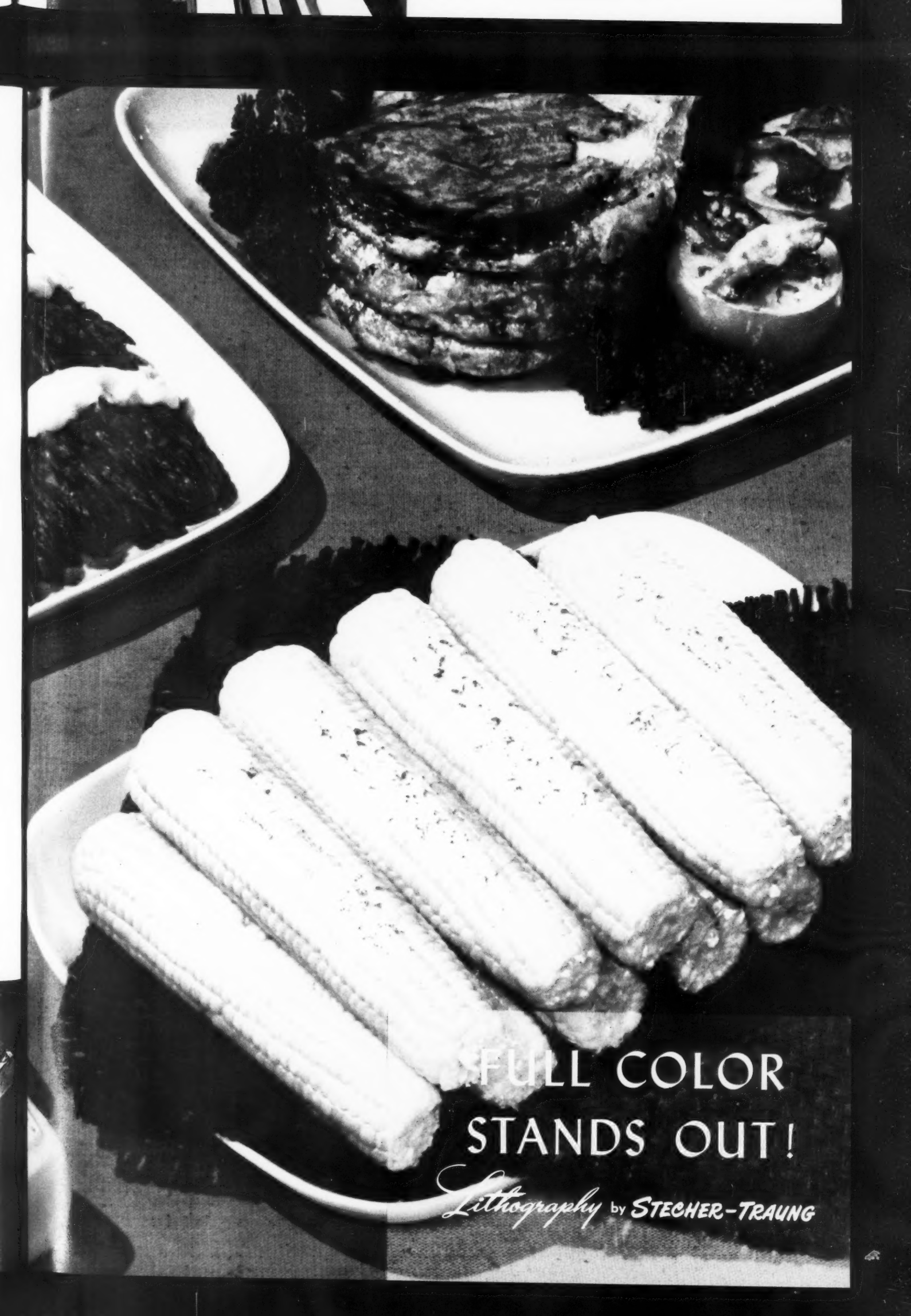
A new type of box that can be set up automatically with locking ends and no glue is being developed jointly at PictSweet's Monroe, Wash., plant by the packer and the box manufacturer.

Reflecting variations in size of retail containers, the shipping cartons vary in size, too. This lack of standardization adds to cost. Even within the plant of one freezer, packing the same number of retail containers in his shipping cartons, there will be various carton sizes as the result of slight variations in the amount of bulge between packs, for example, of strawberries and asparagus.

Today, after two years of rough, postwar shakedown, the Pacific Coast frozen food industry is in a healthier condition than at any time in recent years and now moves cautiously ahead in a highly competitive market. Because the industry is still new, freezers are a ready market for new packaging ideas that will help them cut costs, protect their product and enhance its sales appeal. The cost of the container is secondary; freezers are looking beyond to the total cost of container, filling, sealing, wrapping (if necessary) and labeling. The challenge of food freezers to the packaging field is one of the broadest in the nation's biggest business—food.



FISHERY PRODUCTS are important in the Northwest. This king crab is caught in Alaskan waters, boiled, shelled and frozen aboard ship in long slabs. On return voyage, crew slices slabs into 12- or 7-oz. lengths and wraps them in a heat-sealing sheet of laminated, lithographed Reynolds foil.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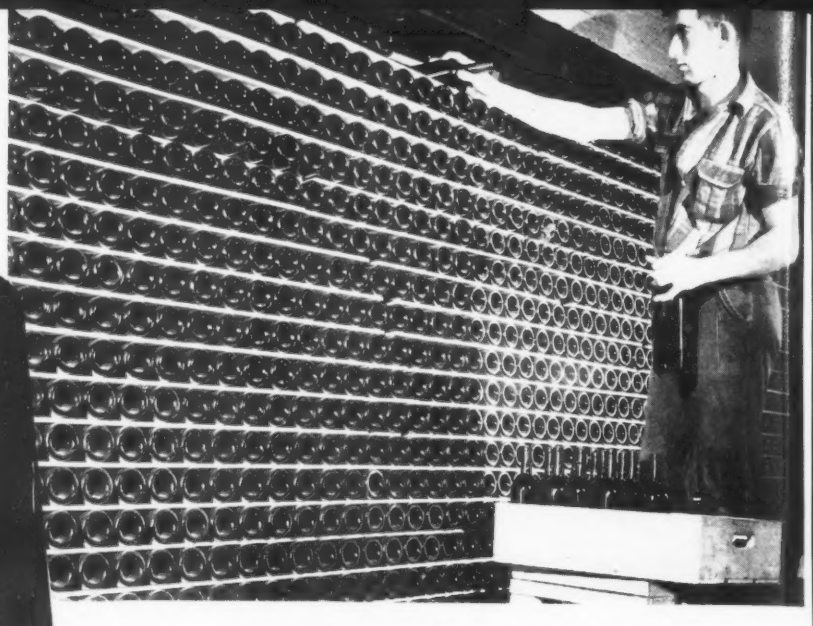
SPECIAL
WESTERN STATES
SECTION

Wines

California produces three-fourths of all American wine, and uses 535,000,000 packages every year.



PUTTING BOTTLES TO BED. This worker in a California winery is laying filled bottles away in a bin, where they will remain for several months. This constitutes the ripening period.

California wine growers, who ship 535,000,000 of the estimated 700,000,000 bottles of wine sold annually in this country, are becoming increasingly aware of the necessity for merchandising their wines in expertly designed packages that produce maximum sales results in the specific markets where they are intended to be sold.

Prior to the war about 80% of the wine produced in California was shipped in bulk. During the war years, however, bottling at the winery increased to above 60% of total production. With the present ratio about 50–50, industry leaders do not expect bulk shipments in the future to exceed 60%.

Along with the usual design factors of smart appearance and merchandising effectiveness, wine involves several special packaging considerations. Labeling must be informative to satisfy federal specifications. There must be forceful identification of wine type as well as brand. Finally, protective packaging is essential over a period of months or years.

Wine has the unusual consideration of being one of the very few food or beverage products served at table in its original package. This means that the package, in addition to performing its many other functions, must present a satisfying and gratifying appearance at the time of consumption.

While more thought is being given to modern wine packaging, custom and tradition still weigh heavily in most packaging decisions by members of the California wine industry. Many wine-bottle types in use today are almost identical in design and construction with ones developed a good many centuries ago. Some of these have distinctive, easily recognized shapes—such as the sloping-shouldered Burgundy bottle, the round-shouldered, straight-sided bottle of the Bordeaux type and the tall, graceful bottle characteristic of Rhine wine. They are all symbolic of their European districts of origin and it was natural for California and other American wine producers to adopt them.

Since wine constantly changes and improves with age, it requires a container impervious to the activity within and at the same time sturdy enough to withstand years of storage and much long-distance traveling. The most satisfactory package for wine yet developed is the glass container, which imparts no foreign taste, odor or color, but breakage is still a big headache for the wine and the transport industries despite advancements made by glass manufacturers in developing a lighter weight, but stronger wine bottle.

Wartime shortages and restrictions had a noticeable effect upon the appearance of the wine package, causing a temporary disappearance of some traditional styles and the distinctive bottles cast from private molds. In cooperation with the government's wartime conservation program, the wine industry pared its needs to a few standard designs. The traditional bottles are back again now, however, and the reappearance of the private-mold bottle is increasingly apparent.

Until about a dozen years ago, the traditional cork was universally preferred as the closure. Since then the screw cap, which can be automatically applied, has been increasingly used, particularly for dessert wines and some table wines in the "popular-priced" category. One of the recent developments in the perfection of the screw-type closure is the aluminum cap with a vacuum-tight seal.* The aluminum cap is threaded by a special machine which rolls it directly onto the neck of the

* See "Roll-On Capper," MODERN PACKAGING, April, 1948, p. 138.

TRADITIONAL SHAPES of bottles for table wines. All of the bottles are green except sauterne, which is in clear or amber glass.

bottle. An inner lining of cork backing, pulp-faced with vinyl, imparts no foreign odor or flavor to the wine and is impervious to rust.

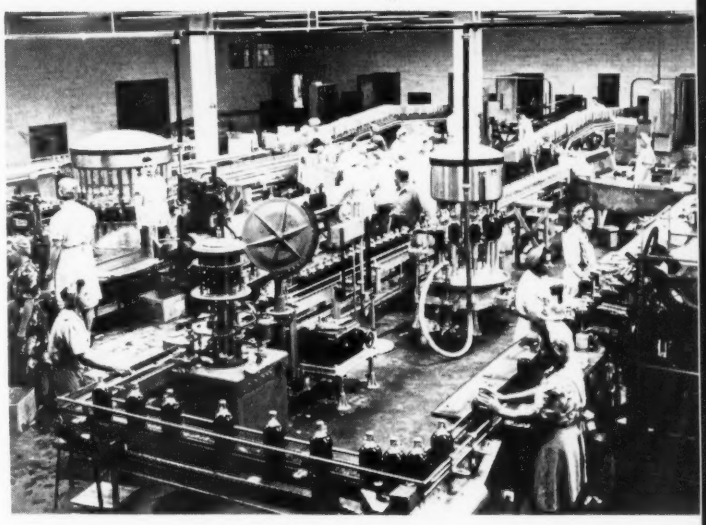
The time-tested cork continues to be the preference for premium wines, particularly table wines. A straight-sided cork, varying in length from 1 to 2 in., is generally used. It is compressed and forced into the neck of the bottle where the cellular structure of the cork enables it to expand into a tightly fitting seal over the bottle.

A second element of the modern wine-bottle closure is the capsule, or neck band. The capsule performs two primary functions: it is protective and decorative. Since the capsule fits over the cork and clings tightly to the neck of the bottle, it helps prevent seepage of air into the container. In addition to safeguarding the wine, it is also a safeguard against the possibility of tampering.

Most of the capsules now in use by California wineries are of plastic material, although some metal-foil caps are still to be seen. Many California wineries capitalize on the merchandising opportunity offered by imprinting the name, symbol or other identifying mark of their brand on the capsule. Since the plastic cap takes printing more readily than the foil, this is an added reason for more widespread use of the former on the West Coast.

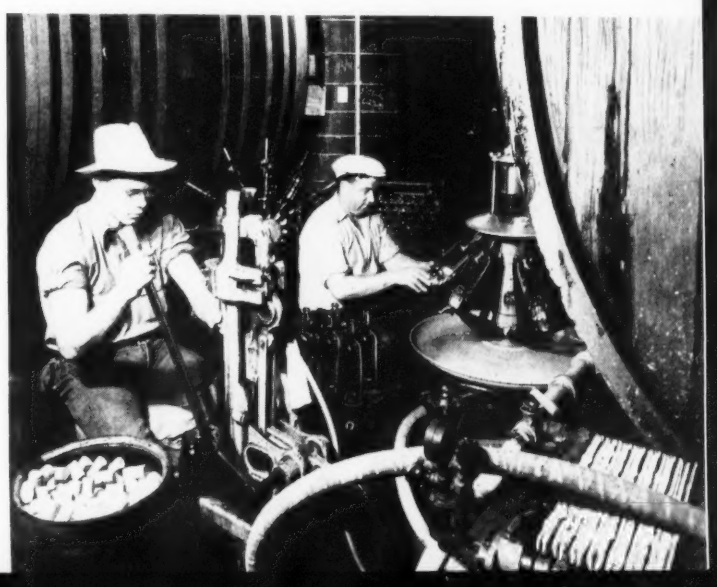
Another informational and decorative device sometimes used in modern wine packaging is the neck or strip label. Either type—the former is so-called because it is affixed to the base of the bottle neck—may contain the date of the vintage or any information required by regulation or desired by the wine grower. In California, where growing conditions are said to be uniformly good year after year, no great significance is attached to vintage dates.

Neck and strip labels are merely supplementary to the bottle labels, the fourth major element in the wine package. The body label carries basic information of interest to the consumer, such as the type of wine in the bottle, the name of the producer and place of produc-



BOTTLING ROOM of Central Cellars of Wine Growers Guild, Lodi, Calif., is typical of modern, automatic installations. Their five bottling lines have a daily capacity of 17,500 cases.

CORKING is still practiced on fine wines, although every-day varieties now generally use threaded or roll-on metal closures. Worker at right is filling bottles from cask, while machine compresses cork and inserts it in bottle.



tion, net contents of the container, percentage of alcohol by volume and sometimes the grape variety used and the vintage date. In performing a merchandising function, the label stimulates consumer purchases. The wine grower strives for a tasteful, attractive, decorative label with sales impact; one that will attract public attention and motivate buying.

Progress in wine label design is one of the most significant forward steps in wine merchandising made in recent years. At one point, shortly after Federal Alcohol Administration labeling regulations were promulgated, many wine growers felt that an effective label design was impossible because of restrictions on phraseology, type size and type faces. A study of this phase of wine packaging revealed that wine labels could be designed to meet all FAA requirements and still be attractive. Since then, improvement in wine label designs has been pronounced.

Winery bottling rooms present many variations, depending upon the quantity of wine produced and the type of operation. The smaller winery may have only one bottling unit, with an automatic filler and hand-operated corker. Bottling here proceeds at a leisurely pace, after which the bottles are laid away in shelves, or "binned."

The wine rests here in a constant and cool temperature, acquiring bottle age before being labeled and shipped to market.

In contrast, a large winery may operate four or five bottling lines, using fully automatic equipment and having a capacity of many thousand cases per day. A number of California wineries have completed new bottling rooms since the war, incorporating the latest in packaging design and the most up-to-date equipment.

One of the most recent installations for large-scale operation is a five-line bottling room at the Central Cellers of Wine Growers Guild, Lodi, Calif., with a daily capacity of 17,500 cases. It occupies 100 by 120 ft. of space in a reinforced concrete building. Modern appointments include glazed tile walls, fluorescent lighting, acoustic-tile ceiling, overhead piping and complete air-conditioning.

The wine, after final refinishing, flows from one of 13 bottling tanks with a total capacity of 160,000 gallons to the bottling line. Two of the five bottling lines are for $^4/_5$ quarts or full quarts; two are for half-gallons and gallons; the fifth is an "all-purpose" line, capable of handling the full range of wine-bottle sizes. Each line extends the length of the bottling room, makes two right angle turns and returns parallel with the outgoing section.

On the outgoing half, the bottles are moved by mechanical conveyor through an air cleaner to a gravity vacuum filler and on to the screw capper. The return journey takes them past the automatic labeling machine and from there to a work table for casing. The cases are then glued, sealed and printed and are ready for shipment.

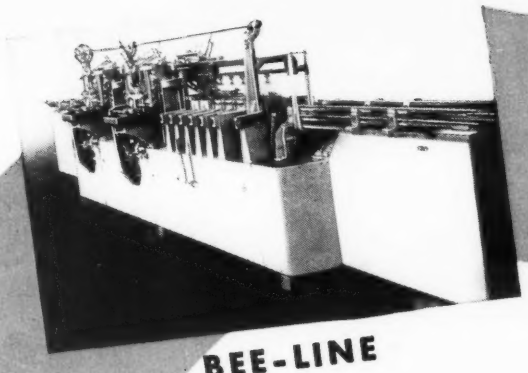
Some smaller wineries are modernizing their bottling operations with equipment of latest design. As an example, one California winery (Ellena Bros. Winery, Etiwanda, Calif.) in recent months doubled its bottling capacity by installing completely new and automatic bottling equipment. The winery can now bottle 2,400 $^4/_5$ quarts daily on a U-shaped bottling line, which occupies a minimum of space in a tiled, fluorescent-lighted room.

The principle of operation closely resembles that in the larger winery, although the mechanics may differ in some respects.

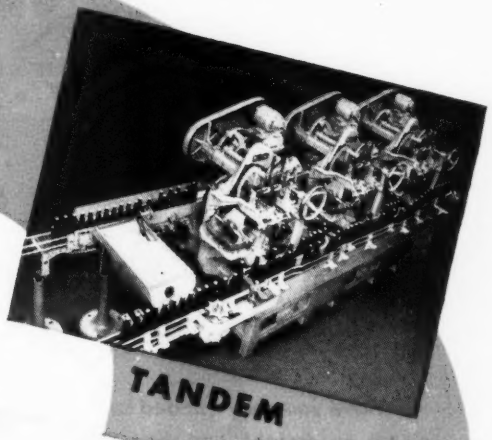
Empty bottles are first moved along a conveyor belt to an automatic inverted air cleaner, which blasts them clean with filtered dry air at 50-lbs. pressure. They next go to the filler, a straight-line vacuum type, as contrasted with the rotary type used in some wineries, which can accommodate 18 bottles at a time. Further along the line, an automatic rotary capper applies the closures. The bottles are then fed singly into a machine labeler, where both front and back labels can be applied if desired. The final operation, application of the plastic capsule, is by hand.

California wine growers, presently bottling 50% of their production, are necessarily keenly interested in the latest packaging trends and developments and will continue to be in the future.

PRIVATE MOLD bottles are coming back strong on California wines following wartime austerity. New Christian Brothers bottles (left) are an excellent example, the design of the bottle repeating the Gothic arch which is the label trademark. Display at right features Cameo's new private-mold bottle. Merchandising-conscious California vintners frequently use displays for sales promotion.



BEE-LINE



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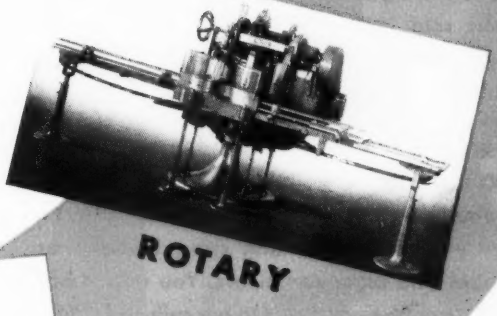
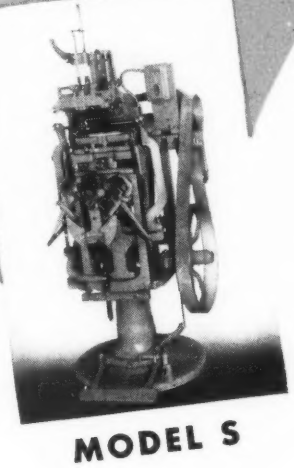


ROTARY



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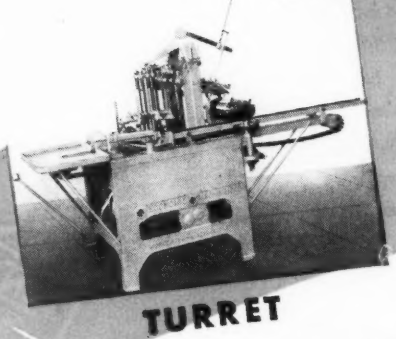

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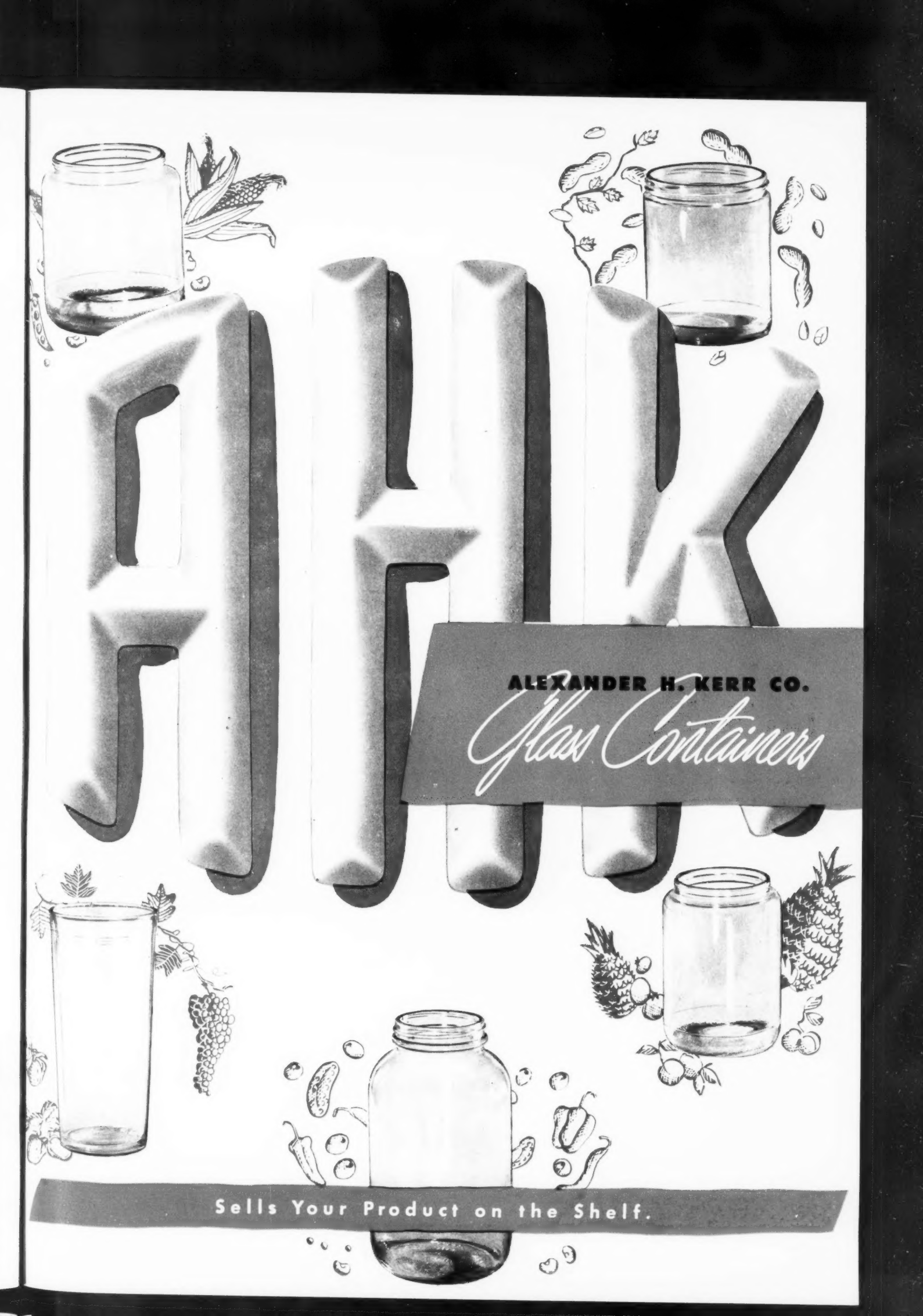
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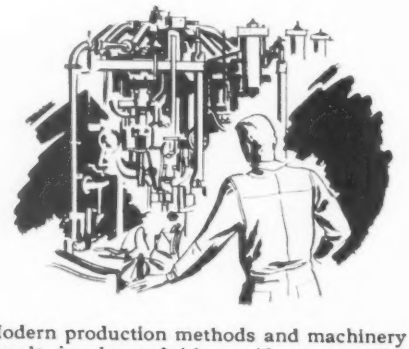
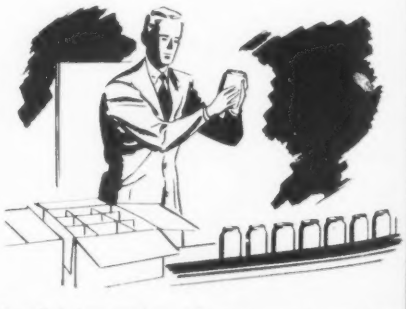
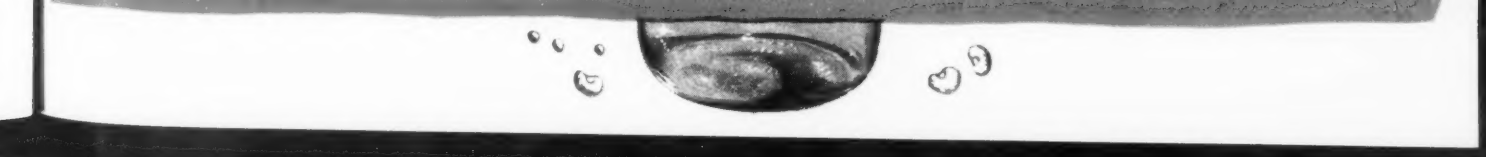


Modern production methods and machinery result in dependable uniform quality.



Careful inspection of each container before packing is part of Kerr quality control.



CANNED GOODS

SPECIAL WESTERN STATES SECTION

It's a time of concentration on sales stimulants and cost cutting in this Western industry, which packs 80% of all U. S. canned fruit and 28% of vegetables

Long, steady growth through more than 25 years has established food canning as a major industry in the Far West and has helped to make that region one of the prime food suppliers of the nation. With this growth there have been many advances in packaging, leading to higher standards within the industry and to broader and expanded consumer acceptance of canned products.

Today the methods of canning fruits, berries, vegetables, seafoods and specialty items are highly standardized—in contrast with the much newer frozen food industry. Developments are primarily in the direction of better merchandising through the development of new label design.

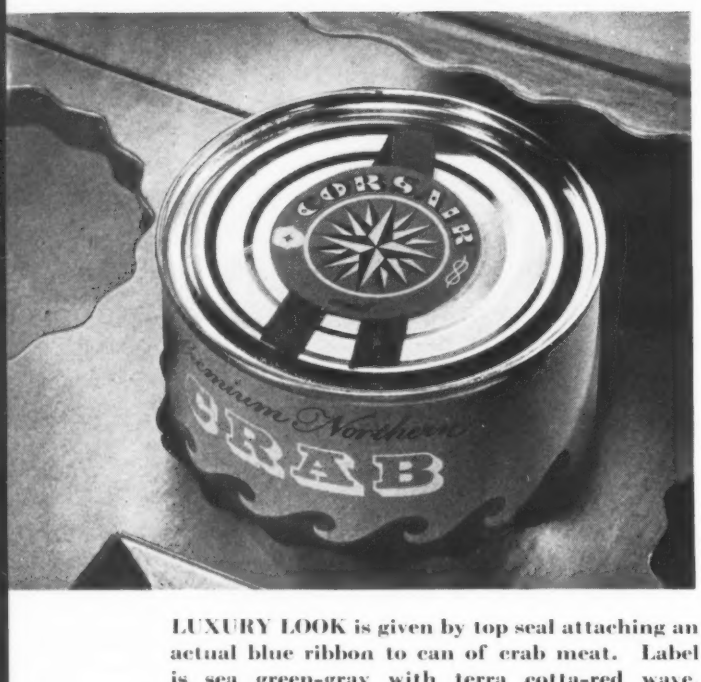
In the peak year of 1946, Pacific Coast canners put up somewhat over 100,000,000 cases of fruits and vegetables. California alone accounted for 82,000,000 cases, an increase of nearly fourfold in 25 years. In 1946 also, California packed more than 9,000,000 cases of canned fish, chiefly tuna and sardines. To this, Alaska and the Pacific Northwest added 6,000,000 cases of canned salmon. Glassed foods, chiefly prepared foods such as preserves, juices, spreads and pickles, came to 40,000,000 cases in the West—a tidy bit of eating.

Taken together, the Pacific Coast packs 80% of all the fruit and nearly 28% of all the vegetables canned in the nation. Peaches, apricots and tomatoes in California, and peas, green beans, corn, pears and plums in the Northwest are the big lines, but diverse production of other items helps round out the pack and swell the total.

For the long pull, West Coast canners see their region becoming even more important in food packing. Signs of that confidence may be seen in recent expansions and improvements by some of the largest packers. Welch Grape Juice Co. has bought the big new plant of Oakland Canning Co., Oakland, Calif., and is building a new plant at Wenatchee, Wash. Others which have expanded recently include Campbell Soup at Sacramento, H. J. Heinz at Tracy, and Libby, McNeill & Libby at Sunnyvale, Calif. The entry of Hawaiian Pineapple Co. into California through its recent purchase of the Barron-Gray Packing Co. plant at San Jose has many implications—including the possibility that eventually the company may put its Dole label on a line of California fruits. Hunt Foods, Inc., is expected to put in some additional preserve capacity and ketchup expansion. Felice & Perelli will do fruit in glass at Gilroy, Calif. Kelley, Farquhar & Co. this season moved into a new cherry-brining plant near Yakima, Wash. New England Fish Co. likewise moved into a new plant this season at Everett, Wash.

Important in the look ahead is the region's agricultural production. New land is coming under cultivation in the next decade—in the vast Central Valley of

NEW LABELS indicate trends in West Coast design. Pink Beauty has cleaned up and strengthened the pictorial elements of its label by grouping information in a compact panel. Jumbo Bill links trade name to a memorable trade character. Deming's adds natural-color picture of product in salad bowl and gives recipes on back.



LUXURY LOOK is given by top seal attaching an actual blue ribbon to can of crab meat. Label is sea green-gray with terra cotta-red wave. This flair for showmanship is typical of Coast. PHOTO COURTESY WALTER LANDOR & ASSOCIATES.

California, on the million-acre Columbia River project in Washington and along the Snake River on the Oregon-Idaho border. These reclamation projects will bring in rich new acreage with ample water and with growing conditions as nearly controlled as possible. The increased production of foodstuffs in these three undertakings lays the basis for continued expansion of food packaging on the Pacific slope.

To the extent that markets can be developed for canned bottom fish (cod, rockfish, halibut, etc.), output of these products may be stepped up, too. It is significant that experimental work is now being done at Seattle on a revolutionary method for shortening the long processing time required for these fish.

Changes in methods of marketing fresh produce may affect the amounts canned. The apple orchards of the Pacific Northwest present an interesting example. DDT and other new sprays have so well controlled apple disease and predators that the proportion of the pack going into the cull chute has been reduced almost to zero and culls—containing blemishes that prevented marketing the fruit fresh—were taken primarily by processors. But as culls drop from the picture, a new and much larger source appears for processors. Growers find that C (third) grade apples, sold in fresh markets, hurt the price of top grades. Hence growers are organizing to keep C grade out of fresh markets and are looking to processors of apple juice, apple sauce and dried and frozen apples to help lug away the C grade fruit.

Possibly the most significant single technical development in canning today is the "flash-heating" process developed by the Schwarz Engineering Co., of San Francisco and Redwood City, Calif. In this method, food is exposed to very high temperatures in one heat exchanger in a closed circuit for a few seconds, cooled rapidly and then filled into cans already sterilized. The lids also are pre-sterilized. Filling and closing are accomplished under sterile conditions through jets of superheated steam. As the sealed cans emerge, they may pass immediately to the labeler and caser.

The Schwarz method is unusual because, after sealing, cans are not sent into retorts or cooked. Advantages are reported to be shorter exposure to heat and, as a result, improvement in taste, color and texture. The process is considered especially suited for liquid or semi-liquid foods, such as juices, vegetable puree, soups, puddings, chocolate milk and baby foods. The process is expected to improve canned cream soups, as there is no curdling of milk.

So far, the work on the flash-heating process has been experimental, with the National Canners Assn. and American Can Co. assisting in tests. Three commercial installations are expected this year. In tests, the machine has operated at 60 cans a minute, the capacity of the sealer then in use.

Suppliers report a tendency in conventional packing this year to return to the prewar practice of a wide variety of can sizes. Smaller sizes are being packed, such as No. 300 and 303 and the No. 1 tall, in addition to the standard No. 2 and $2^1/_2$. Smaller sized cans help packers break through consumer resistance to higher prices.

In preparation for increasing sales competition, many packers are using new label designs. The trend is toward simplification of design elements, strengthening of brand recognition, better picturization of product and addition of information that sells the *use* of the product—all with the object of increasing sales effectiveness.

In the re-arrangement of design elements, labels are being cleaned up so that each element stands out sharply. Vignettes picturing the contents are being enlarged to provide real appetite appeal. Commonly, an information panel is added to give such information as the number of servings and some description of contents. To build new uses for the products, packers often add recipes, sometimes on the reverse side of the label, or they may show how to plan a meal using the product. Essentially the thinking is this: To sell more canned foods, show the housewife how to prepare the food in a variety of ways.

To gain eye appeal, the trend is to high-gloss coated and varnished labels. Some are experimenting with premium paper. There is also a tendency to use a brand name which can be illustrated on the label, such as Jumbo Bill brand peas, packed by Umatilla Canning Co., Milton, Ore., showing a jumbo elephant head and a giant pod of peas.

While some attention is being paid to thermoplastic and foil labels, high cost during a year of cautious watching of prices tends to keep this development still in the experimental stage so far as most food canners are concerned.

Some use also is being made of lithography directly

on metal, but packers report that this method hampers the flexibility of can inventory.

Glass, with its strong eye-buy appeal for attractive products is fighting for increased use in food canning and chief headway is being made with quality fruits. But added cost is an important factor in a year of caution and in addition, high freight rates pose a special problem in the Far West for any packaging material that adds to total weight. One equipment supplier estimated that the recent 20% freight rate increase added 30 cents a case to the costs of a packer in the Pacific Northwest in laying his product down on the Atlantic Seaboard.

As one means of speeding operations and cutting costs, many canners are adopting the pallet system for their warehouses. Paulus Bros. Packing Co., at Salem, Ore., with a new plant of 275,000 sq. ft., illustrates this trend. Here production lines operate on continuous flow from fresh produce at one end to cased goods at the other.

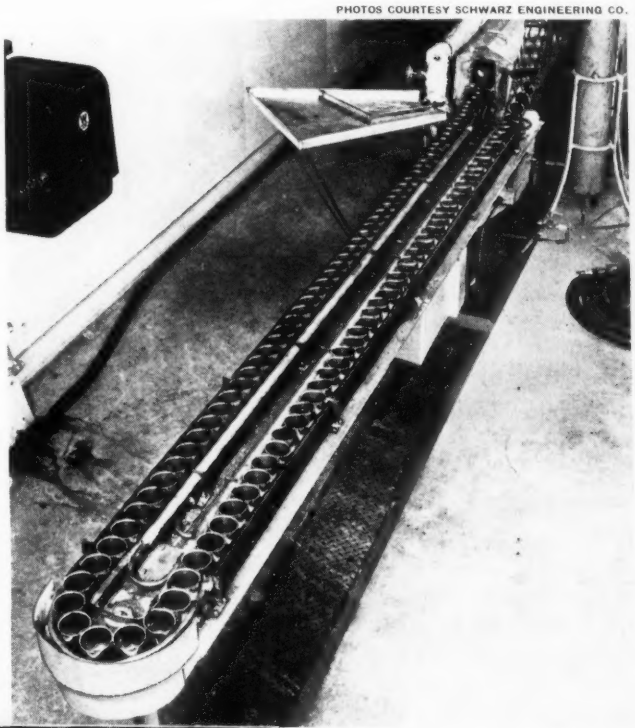
As the Western food industry grows, new uses develop for traditional containers. As an example, Speed-Tatoes, a dehydrated, cooked potato manufactured by C. F. Buelow & Co., Inc., Seattle, is packed in a pint-tall olive tin with lithographed label for better merchandising.

Throughout its long, steady growth, the Western canning industry has been attended by research to improve quality. For 20-odd years the National Canners Assn. has operated a research laboratory at San Francisco. Now, in recognition of the importance of the Western canning industry, the association has announced plans to build a new laboratory at Berkeley, Calif., as part of a $1,500,000 building program.

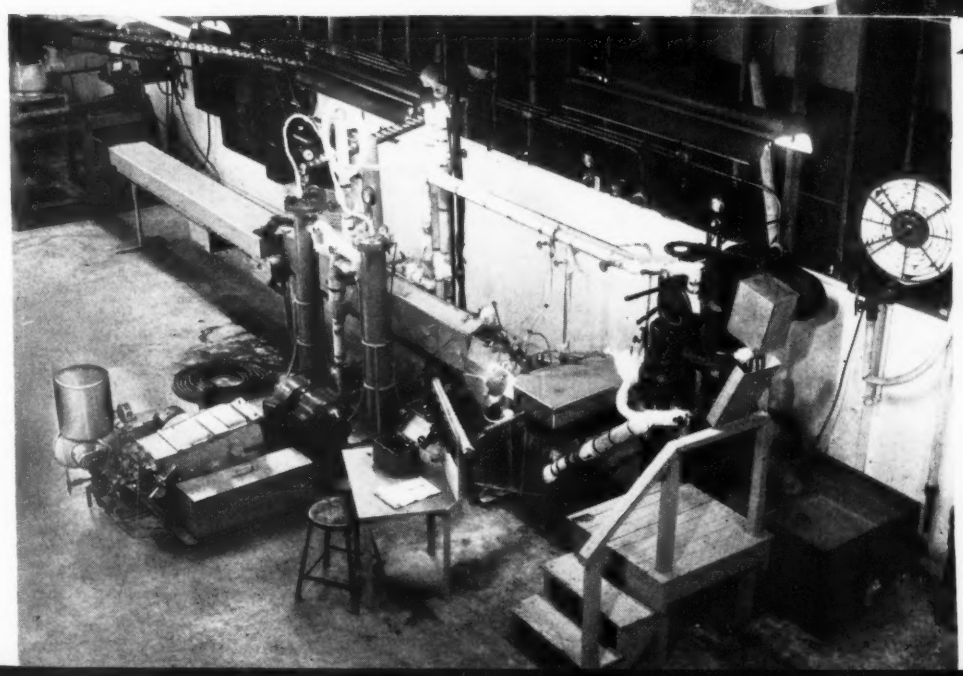
Western canners also have been supported by strong cooperative merchandising. The leading example is the California Cling Peach Advisory Board, with a budget of over $1,000,000 for advertising and promotion. The fledgling Washington State Fruit Commission, now starting its second year, is directing a part of its advertising funds toward building the Eastern market for Washington canned fruits, especially in the institutional trade.

Western research and promotion indicate confidence in the steady growth of this region in the canning industry. More important, they indicate also a recognition of the need for a quality pack and for packages and packaging materials that will help the industry compete in distant marketing centers.

PHOTOS COURTESY SCHWARZ ENGINEERING CO.

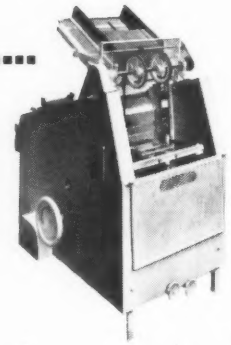


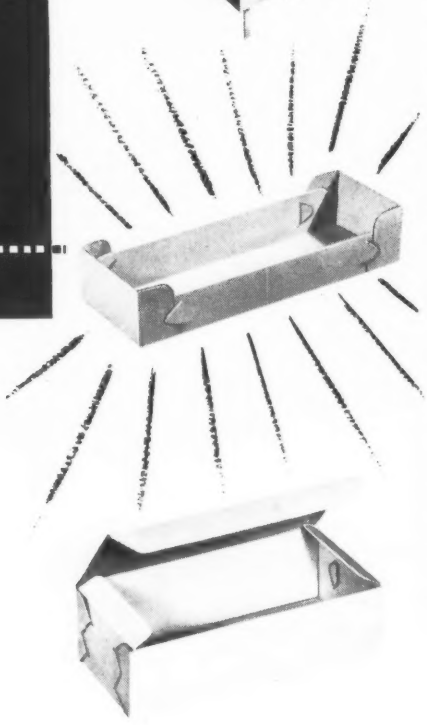
FLASH-HEATING PROCESS, providing short high-temperature sterilization, may revolutionize canning procedures. This West Coast experimental installation shows empty cans moving from overhead conveyor through U-shaped chamber where they are sterilized and then back to aseptic filling chamber (indicated by small reflector and light.) In production set-up, filled and sealed cans go immediately to labeler and casing.



STERILIZATION chamber for cans with cover removed. Pipes carry super-heated steam. Lids are similarly sterilized before application. In tests, the equipment has handled 60 cans a minute.

this box.....
(in any size or shape)
plus this machine.....
gives you BETTER PACKAGING *and* LOWER COST.....





HINGE COVER BOXES
TELESCOPE BOXES
TRAY BOXES

Kliklok

—the newest and best development in folding boxes—cuts finished costs of packaging as much as 25%! Economical Kliklok blanks are made into rigid set-up boxes by the Kliklok machine.

The Kliklok method of packaging paces the packers. The efficiency of packers is doubled in many cases by the steady, uninterrupted flow of boxes into which they pack their products. Packers must keep up with the flow of boxes traveling past them.

KLIKLOK IS *EFFICIENT!*

- Kliklok boxes can be set up by the Kliklok machine at speeds ranging from 60 to 150 per minute.
- Kliklok boxes are *self-locking—no glueing!*
- Kliklok boxes are delivered to you flat, take up about one-fifth the storage space the pre-folded box requires.
- Uniform, rigid Kliklok boxes permit perfect wrapping and sealing in the wrapping machines.
- Rigidity permits ready stacking in retail stores, assures equilibrium of the stacks.

Kliklok boxes are adaptable to innumerable industries. Bakers, confectioners, meat packers, fresh and frozen food packers, among many others, have found Kliklok the answer to packaging problems and packaging costs.

WE ALSO MANUFACTURE SPECIALTY CORRUGATED PRODUCTS

DISPLAY-TEX, the accepted standard in the corrugated window display field.

***Low-cost grease-proof liners* and trays for the bakery field. *Wrapping rolls:* Kraft, bond (white or colored), flexible or plain. "A" flute or "B" flute.**

See us at the
WESTERN PACKAGING SHOW
San Francisco Civic Auditorium
AUGUST 10-13
Booth 107

For further information, write

BEMISS-JASON COMPANY

111 TOWNSEND STREET • SAN FRANCISCO 7, CALIFORNIA

LICENSEES THROUGHOUT THE U. S.

GOLD MEANS TOPMOST QUALITY IN SHELF MERCHANDISE.

GOLD LABELS SHOULD HAVE THE SHEEN AND BEAUTY OF GOLD.

OUR PERFECTED **BURNISHING PROCESS** DOES THE TRICK.

HERE IS WHAT WE CAN ACCOMPLISH FOR YOU.

Schmidt LITHOGRAPH COMPANY

SAN FRANCISCO · LOS ANGELES

when you want gold labels that really *gleam* like gold...

Here's the machine that will produce them...the latest and most perfected in Burnishers.

It gives Gold Labels an unsurpassed sheen and beauty...and adds to the attractiveness and salability of the labeled product.

Gold Labels should have the beauty of Gold. We give it to them.

Schmidt LITHOGRAPH COMPANY

SAN FRANCISCO LOS ANGELES

OAKLAND • FRESNO • SACRAMENTO • HONOLULU, T. H.
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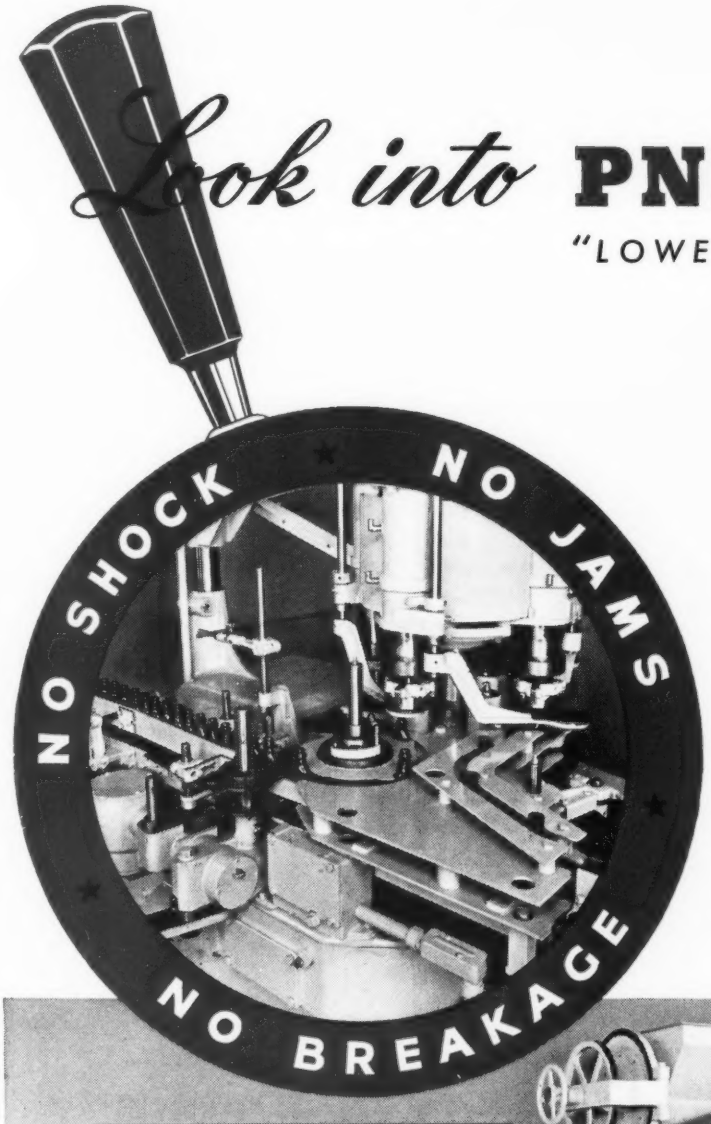
Look into PNEUMATIC'S

"LOWER COST PER CONTAINER"

CAPPING

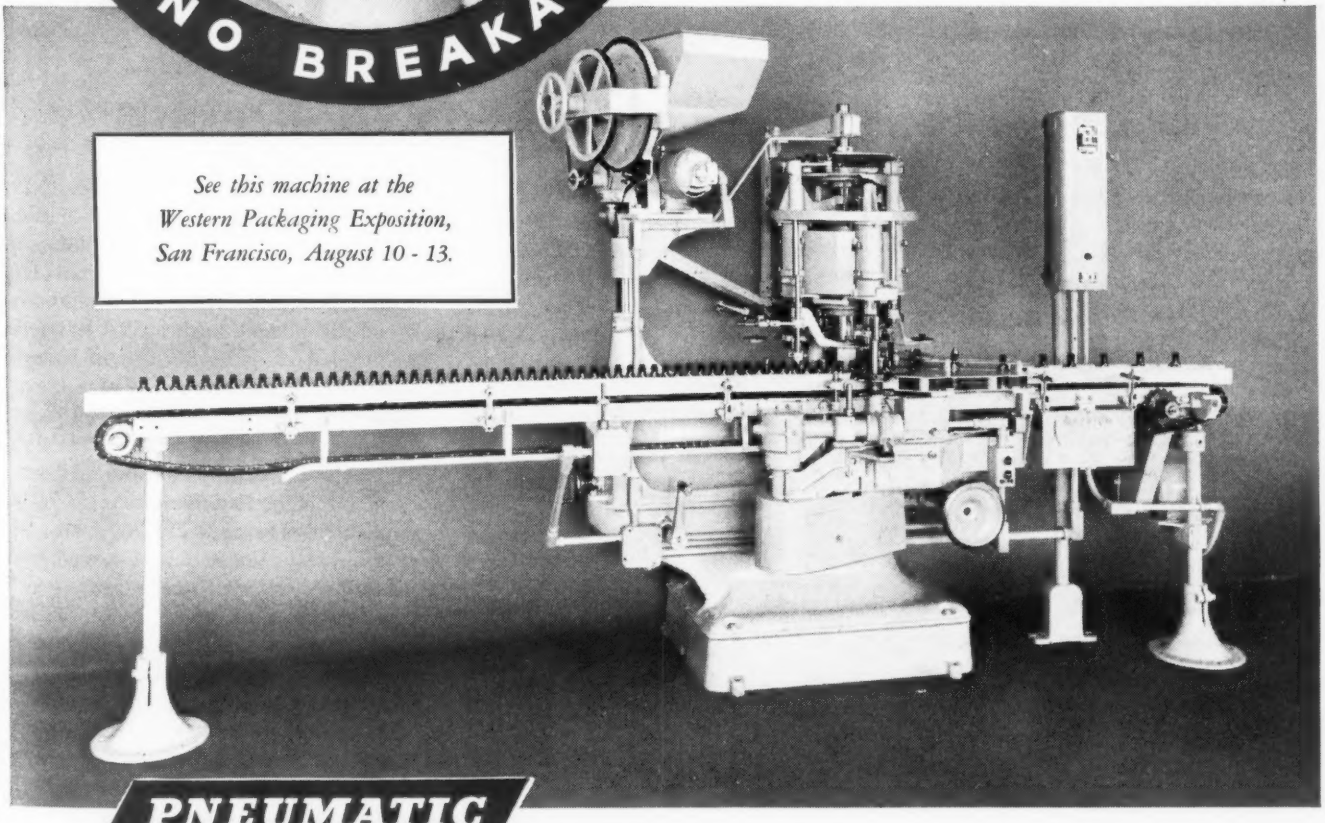


What has this Pneumatic Capper got that makes it such a smooth operating, money saving performer? The answer is (1) Continuous rotary intake that handles glass GENTLY (2) Positive, gentle transfer of caps from hopper to bottle (3) Two-speed chucks accommodate both C. T. and lug-type caps (4) Single crank adjusts height of both the cap feed and the capping head (5) No gears to change—variable speed drive is standard equipment (6) Sensitive chucks apply caps to uniform, predetermined tightness.

These design advantages PLUS Pneumatic's precision machining of *every* individual part combine to give you "Lower Cost Per Container Performance". Send for complete bulletin on Pneumatic Capping Machines.

PNEUMATIC SCALE CORPORATION, LTD. Main office: 82 Newport Ave., North Quincy 71, Mass., Branch offices: New York, Chicago, Los Angeles, San Francisco.

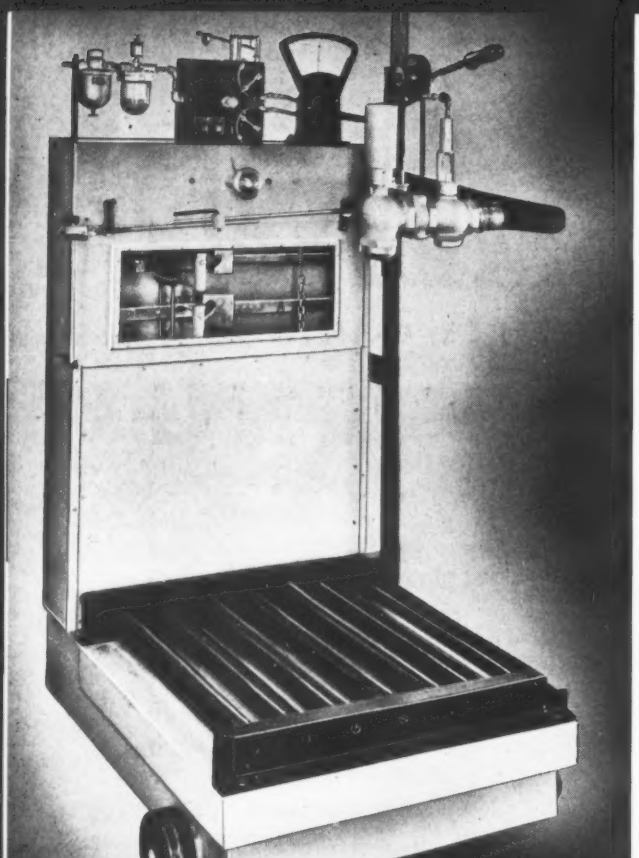
See this machine at the Western Packaging Exposition, San Francisco, August 10 - 13.



PNEUMATIC

PACKAGING AND BOTTLING MACHINERY

Over ninety different machines for the packaging of dry, free-flowing products and the cleaning, filling, capping and labeling of containers for liquids and semi-liquids



BARREL AND DRUM FILLER

A barrel and drum filler with a special device that automatically compensates the deviation of tare weight during filling has been developed by the specialties division of T. R. Mantes Co., San Francisco, large West Coast distributor for industrial weighing equipment.

This device is said to make it possible for a drum or barrel to be filled with product to a predetermined net weight with a very high degree of accuracy.

The barrel filler is adjustable for net weights from 50 to 650 lbs. and tare weight to 100 lbs. with compensating adjustment up to 25 lbs.

A balance indicator on the scale registers the exact net weight in the drum when it is filled.

The filling valve is adjustable for either bulk or dribble flow. Rate of flow is automatically controlled. An idea of filling speed can be gained from a report that some grades of lubricating oils have been run at the average rate of 53 gal. per min. with accuracies to within $^1/_2$ lb. net weight.

The Mantes barrel filler is available in two models for electrical power or pneumatic and is said to be completely explosionproof so that it can be used for gasoline, naphtha, varnish, thinners, insecticides and certain chemicals. It has also been used for filling drum. or barrels with food oils such as peanut oil, cocoanut oil and corn oils

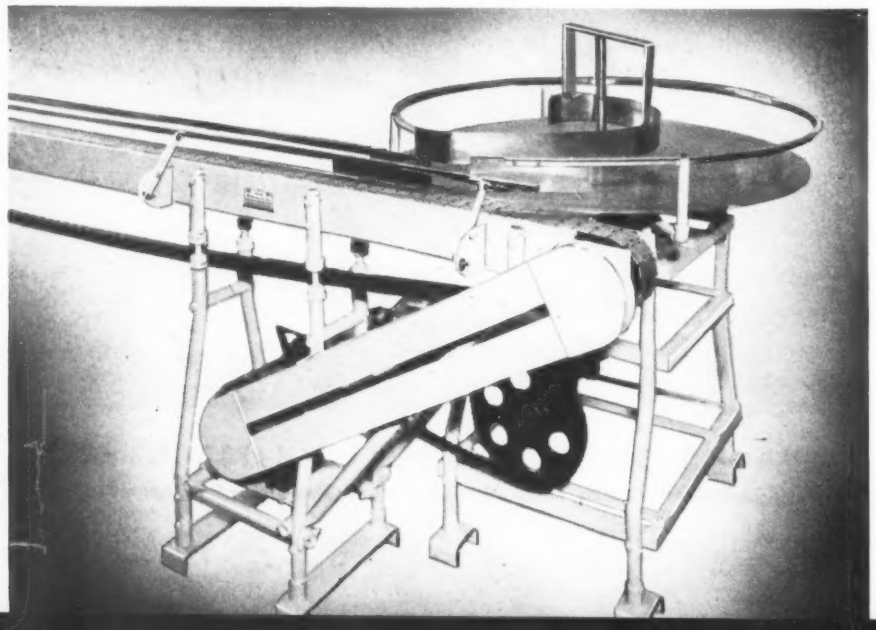
Controls are positive and constant in operation. According to the company, operation of the barrel filler is easily mastered and necessary adjustments can be made quickly.

WESTERN MACHINERY

BOTTLING CONVEYOR AND ACCUMULATING TABLE

Thomas D. Stevenson & Sons, Cliquot Ginger Ale bottlers in Oakland, Calif., have recently installed this new bottling conveyor and accumulating table built by Horne Machinery Co., Inc., San Francisco, in their new plant.

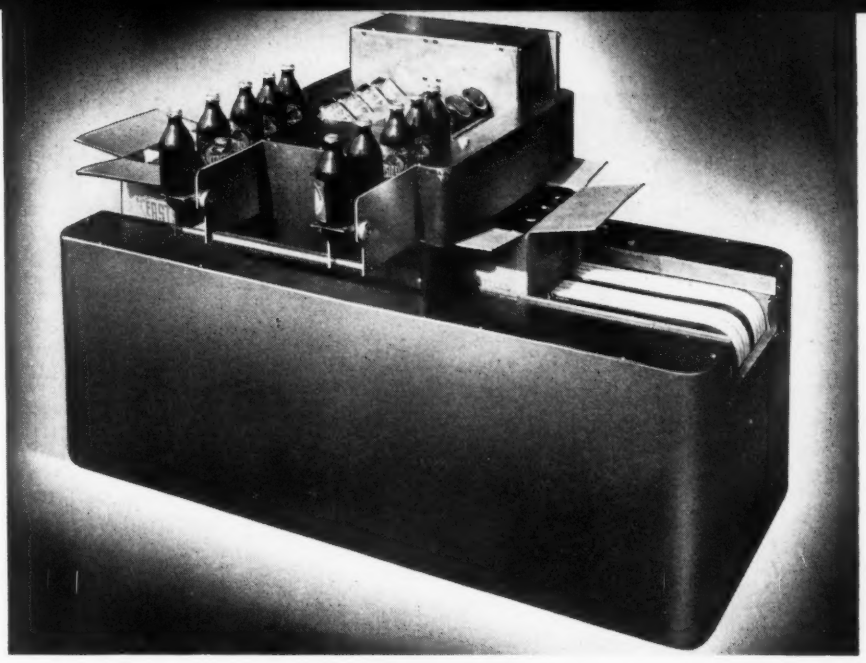
The bottling conveyor and table is Horne's de luxe model whice has incorporated a number of special features. It has been designed so the base plates are off the floor and this change combined with the use of tubular stands allows cleaning and washing down to be done easily and efficiently, it is said. The rotating accumulator plate is made of stainless steel. Guide rails are satin-finish nickel plated. A variable speed drive has been installed so small and large bottles can be accommodated.



Standard models of this equipment made by Horne have many of the same features as the de luxe model. The $3^1/_4$ in. table-top conveyor chain, for example, is of Rex stainless steel on both models. Guide rails are fully adjustable on both models and the liner beneath the conveyor chain can be renewed as it takes up the wear of the chain. Sealed-for-life ball bearings are used throughout in both machines. Constructed in sections with convenient bolt plates, the conveyor section can be shortened or lengthened as necessary. Frames are constructed of channel iron.

The tubular frame on the de luxe model is equipped with special fittings to compensate for uneven floor levels.

BOTTLE CASER



Beer, tomato catsup, chili sauce and other glass-packed products are automatically cased at high speeds by the 200 Series of bottle casers made by Ace Mfg. Co., Los Angeles. The basic machine can be order in a number of styles, depending on type of bottle. It is a double-row, double-chute caser which inverts the bottles or jars and directs them into the proper cells of the case with a capacity up to 240 bottles per min.

Empty cases are fed into the caser from the unloading conveyor at a right angle to the bottle line. A feature of the 200 Series is that it is impossible for the bottles to be discharged into the case until the empty case is in position.

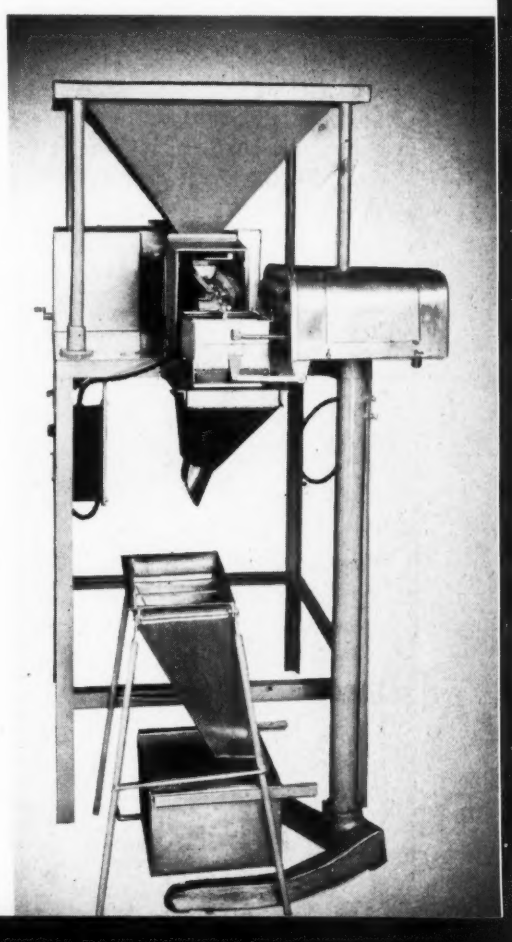
When the case reaches a pair of indexing fingers on the intake feed, the pressure against the fingers activates a microswitch which in turn activates a solenoid that releases the lock on the discharge trap holding the bottles. Bottles are tipped onto a series of rollers and directed into the cells of the cases.

The machine is equipped with a special automatic line stopper so loading chute cannot be overcrowded. Bottles may be cased from an eight pack to 24 by adjusting a lever which controls the operation of the case indexing fingers.

The unit requires 15 sq. ft. of floor space. Power is supplied by a 1/4 h.p. 110–115 volt single phase, A.C. motor. Motor and gear-reduction unit are located on an enclosed sub-base. The electrical system is designed so each unit can be removed without removing any wires, according to the company.

WESTERN MACHINERY

HIGH-ACCURACY WEIGHING MACHINE



Codie-Kay Co., Inc., Los Angeles, has designed and built nail-weighing machines which use both electrical and mechanical vibratory feeders. The combination is said to provide accurate weights within one or two pieces of material. First machine is being used by the Pioneer Division of Flintkote Co. to weigh roofing nails. The same type of machine can be used to weigh nuts and bolts, screws and studs.

To move the product out of the large hopper holding 250 to 300 lbs., a special oscillating mechanical vibratory feeder is used. This feeder is equipped with a variable speed drive so speed of feeder can be changed depending on type and size of product being run.

The oscillating motion, according to the company, prevents any bridging. From this oscillating feeder the product is shaken into a V-trough electric vibratory feeder equipped with a rheostat so speeds of both feeders can be synchronized. Steady flow from the electric feeder drops into electrically actuated net-weight scale.

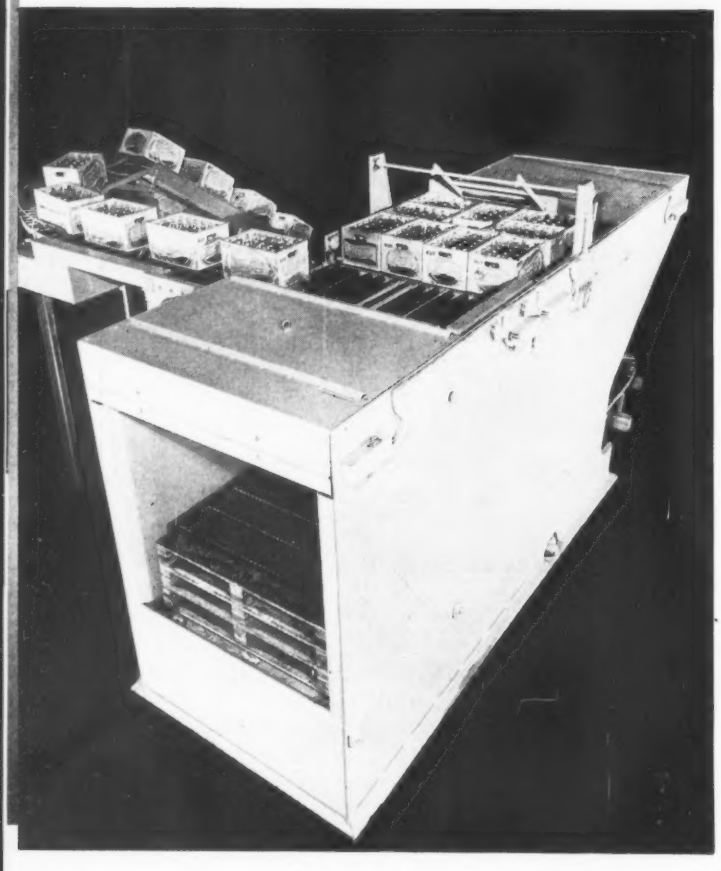
Scale is a three-vane type mounted on nonferrous knife edges. When predetermined weight has been reached the vane is then automatically released by a solenoid.

Contact switch for energizing solenoid is designed with a permanent magnet to close the microswitch, thus eliminating any friction of spring tension in the contact.

The scale is mounted on a separate pedestal to assure constant, even operation. Outlet spout which can be made to accommodate size of customer's package is mounted on main frame, directly under net-weight scale.

The nail weigher has a speed of 20 to 35 packages per min., depending on size and weight of material, with closer tolerance than it is possible to get on a hand-pack line, it is claimed.

The machine needs only one operator to handle the filling station.



AUTOMATIC PALLET LOADER

One of the most-discussed machines shown at the 1948 National Materials Handling Exposition was the automatic pallet loader made by Production Aids, Inc., North Hollywood, Calif. The machine takes cases or cartons directly from a production line, after they have been sealed, and loads them onto empty pallets, cross-tying them whenever it is necessary.

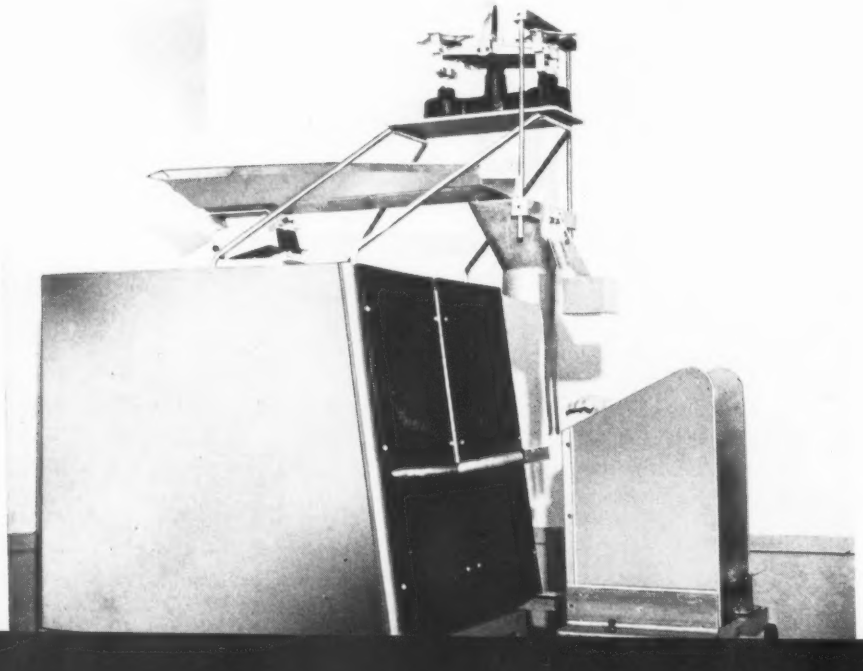
Cartons can be assembled on the pallet in stacks with patterns predetermined. Up to 18 stacking arrangements can be obtained by pushing a button regulating the electrical control unit. Each button controls the sequence to be followed and arranges the stack as to number of cartons per row, number of packages rotated or not rotated per row, number of rows per lay, box spacing if any and number of layers. The automatic pallet loader is capable of palletizing from 25 to 30 cartons per min., depending on length, with a total height of stack to 65 1/2 in. above a 6-in.-thick pallet. The standard model has a compartment in the rear which holds 10 pallets of regular 6-in. height. Loaded pallets are lowered to bottom of machine and expelled by a chain drive. Empty pallets are brought forward and raised by an elevator arrangement to its position below the stripper plate which has already accepted a layer of cartons. Cartons can enter conveyor line at any speed as machine is entirely automatic and has an accumulator roller attachment which will hold back the excess. The machine is now sold and serviced exclusively by Lamson Corp., Syracuse, N. Y.

WESTERN MACHINERY

POTATO CHIP WEIGHER AND FILLER

A new weighing and filling machine for potato chips that operates on the vacuum principle has been introduced by Norberg Tool & Mfg. Co., Sausalito, Calif.

A vacuum cylinder operates the suction arm which carries the bags to the filling spout where the back edge of the bag catches on a prong extending down from the spout. The arm continues its upward movement until bag is completely over this prong and fully opened. When the bag is in proper filling position an electrically operated holding clip secures it to the spout and the suction arm releases its hold. Filling is done with an electronically controlled vibrator.



As soon as the bag is 85 to 90% filled, the vibration decreases to a dribble-feed speed so that the weight can come to close accuracy. Speed of the machine can be adjusted to speed of feeding in bulk chips or of bag-sealing equipment. Filled bags are released by holding clip and drops or slides into chute or conveyor for sealing.

The Normat filling and weighing machine is adjustable for various sized bags up to 16 oz. and may be flat or gusset style. According to R. Q. Todd, sales manager, the machine will fill and weigh an average of 15 to 20 1 3/4-oz. bags per min. Weight tolerance on this size has been less than 1/8 oz. plus.

Half Pound
Sliced Bacon
Package

Package Illustrations courtesy
LUER PACKING COMPANY
Los Angeles, California

Designs by
TINSLEY T. JEPSON
Los Angeles, California

Half Pound
Pork Link
Package

mullinix

CROWN ZELLERBACH CORP., WESTERN WAXED PAPER CO. DIV. AND LICENSEES IN UNITED STATES AND CANADA. P.O. BOX 2444, LOS ANGELES, CALIF.

The Woman's Viewpoint . . . .

It is generally acknowledged among packers that smart merchandisers of meat products recognize and respect the value of the woman's viewpoint when making important packing decisions. They know today's housewife fully appreciates the advantages of modern packing methods and that she no longer is satisfied with the untidy, inconvenient packaging of yesterday. The modern homemaker has learned to select brand by package preference. She knows, for example, that when buying sliced bacon or pork link sausage the Mullinix package is her assurance of convenience and protection. It is obvious to her that the Mullinix package is greaseproof and moistureproof, that it protects its contents from the ravages of light and air. She can see the Mullinix package is well designed, properly constructed, fresh looking . . . truly, fresh as a daisy. But above all, she enjoys a feeling of satisfaction and assurance when she buys her favorite brand of sliced bacon or pork sausage in the Mullinix package. The first indication of fine quality is the appearance of the package itself. She knows that a packer who takes pride in his packages must produce a fine product. Remember, the modern day housewife is package conscious. To make a hit with her, package your product in the Mullinix lightproof package.

for STRENGTH, LIGHTNESS, ECONOMY ship in STEELFIBER DRUMS

There are no containers of their type that can match Pacific Steelfiber Drums. For their low price, they are the strongest drums available—strong enough for shipping chemicals, greases, liquid waxes, insecticides, food and dairy products and other dry, semi-solid or solid bulk items. Linings of special materials (paraffin, soda of silicate, etc.) make Pacific Steelfiber Drums vapor proof, grease proof or resistant to chemical action.

These drums are obtainable with a variety of lids—clip closure, friction and one-piece tape sealable types. Both lids and bottom ends project beyond the sidewalls, providing 2 wheels on which the drum can be rolled.

Evaluate these 3 outstanding features of Pacific Steelfiber Drums yourself:

They're Strong—Pacific Steelfiber Drums derive their strength from 6, 8 or 10 plys of heavy paper, convolutely wound and capped with steel ends. The bottom ends are attached by a patented method that actually increases their hold if given severe shocks. The steel does not cut the container, hence there is no reduction of the inherent strength of the fiber sidewall.

They're Light—You'll be amazed by the featherweight lightness of Pacific Steelfiber Drums—They are so easy to handle that you'll have no trouble lifting several empty ones at a time. For example, a 6 ply, 6½ gallon Steelfiber Drum weighs 4¼ pounds, while the 60 gallon size tilts the beam at only 15 pounds. By nesting smaller drums inside larger ones, you receive the lowest possible freight rates on your "empties".

They're Inexpensive—Not only do Pacific Steelfiber Drums cost much less than wooden or steel drums, but they save you money in two additional ways. First, their lightness cuts transit, handling and distribution costs of products packed in them. Second, in most cases, these superior drums are re-usable—Opening causes no damage to either the lid or body of the container.

Special Drum for Asphalt

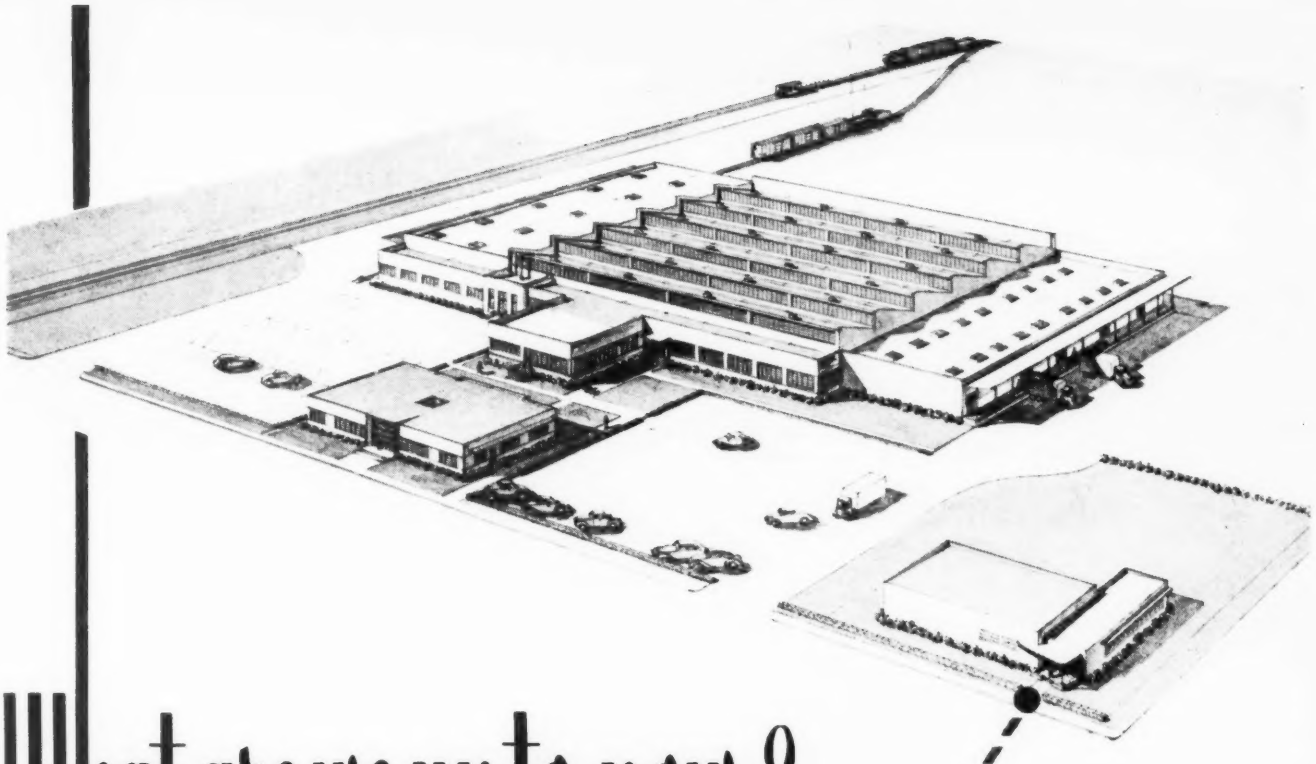
If you market or use asphalt, you will be interested in the Steelfiber Drum designed specifically for this hard-to-unpack product. This drum has a non-flaking clay coating inside. To use the asphalt, you merely knock the ends from the drum, and slit the fiber side which then peels off easily.

PACIFIC STEELFIBER DRUMS COMPLY WITH C.F.C. AND I.C.C. SPECIFICATIONS.

Pacific Steelfiber Drums have been tailored to solve many difficult packing and shipping problems. Even on orders requiring special inner linings, West Coast delivery seldom takes longer than one week. Illustrated folders, describing Pacific Steelfiber Drums fully and giving complete specifications, are available. Write for them today.

PACIFIC STEELFIBER DRUMS INC.

1025 Westminister Avenue, Alhambra, California



What are we up to, now?

Twice within a year, Western's manufacturing facilities have expanded and diversified!

The first phase of this expansion has been completed at our North Portland plant.

The second phase is pictured above and is now under construction at San Leandro, California.

AND, to complete the expansion, an entirely new plant is on the drawing boards for Los Angeles!

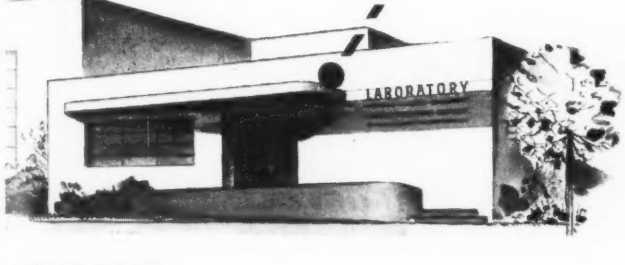
These new facilities are not limited to square footage and equipment alone, but include the addition of technical and supervisory personnel, which assures YOU better packaging materials and services.

INDICATED is our new and expanded Packaging Research Laboratory at San Leandro, Calif.

This Laboratory affords the centralization of all packaging development work, PLUS greatly increased packaging testing equipment and an augmented staff of highly trained personnel.

Completely equipped with conditioning rooms to reproduce any atmospheric conditions, this unit makes it possible for us to properly test and analyze YOUR package and its contents.

The prime operation of this Laboratory is that of developing and testing for YOU new and improved packages which will insure you authoritative recommendations and PRECISIONIZED packaging for your product.

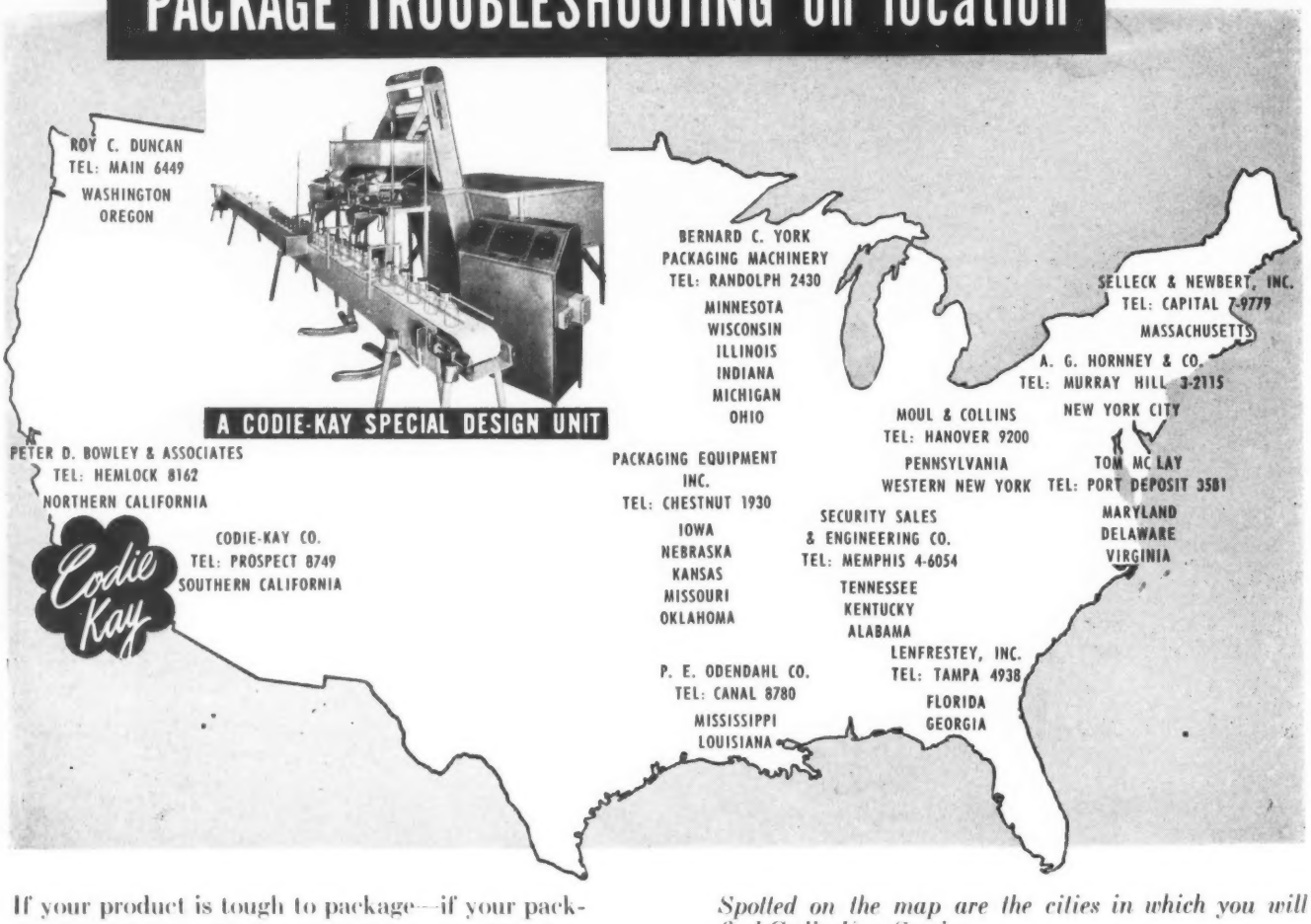


WESTERN WAXED PAPER CO.

DIVISION OF CROWN-ZELLERBACH CORPORATION

OAKLAND • PORTLAND • LOS ANGELES

PACKAGE TROUBLESHOOTING on location



If your product is tough to package—if your packaging production line is operating at anything less than 100% efficiency—if you wish to alter an old package or create a new one...you have an associate office of Peter D. Bowley and Associates, specialists in out-of-the-ordinary packaging problems, in your immediate vicinity to help you.

Peter D. Bowley and Associates, national field representatives of Codie-Kay Co. of Los Angeles, has 12 associated offices throughout the United States. Each office is staffed by qualified packaging trouble-shooters—men who know how to untangle your most complicated problem, where to get the equipment you need. If your problem calls for extraordinary, non-standard machines, they can design them, have them built in record time, and install them in your plant.

Spotted on the map are the cities in which you will find Codie-Kay Service.

PACKAGING EQUIPMENT INC.
2013 Olive Street
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BERNARD C. YORK PACKAGING MACH'Y
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For a free diagnosis of the ills of your ailing packaging line, with recommendations of methods and machinery that will improve its speed and production, phone the office nearest you today.

Codie-Kay COMPANY INC.

INDUSTRIAL PACKAGING ENGINEERS

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REPRESENTED NATIONALLY BY PETER D. BOWLEY AND ASSOCIATES

IF STANDARD EQUIPMENT WON'T DO THE JOB— CODIE-KAY WILL

Now Easy, Sure, Perfect HEAT SEALING with the WELLS THERMOSEALER

Amazingly Accurate CONTROL of Base-Heat PROPERLY SEALS Heat-Sealing Materials

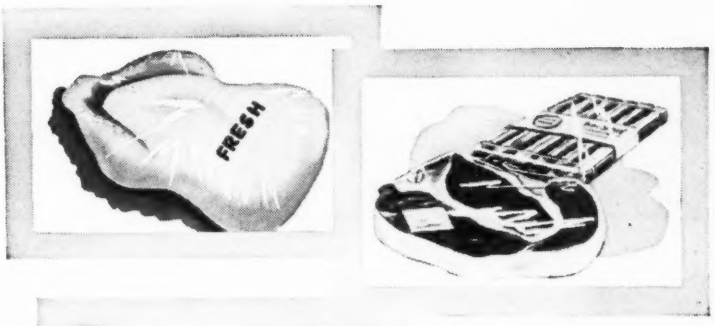
EACH heat-sealing material requires its own particular temperature to seal it properly.

The Wells Thermosealer solves this tricky problem — makes it easy—because Wells developed an **adjustable** Thermostat that **holds the temperature** of the aluminum base **within the close tolerance required** for the given heat-sealing material.

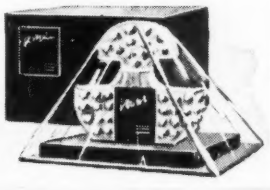
In devices where the temperature is not closely controlled, sealing is haphazard.

For more than 10 years the Wells Thermosealer has proved reliable. It is sturdily built for long years of good service. Made by the Wells Manufacturing Co., a prominent electrical manufacturer of 30 years' experience, the Thermosealer is widely used the nation over. Users try one, like it, and buy more.

Once you try it, you'll find that even what you **thought** to be stubborn heat-sealing material now seals easily and perfectly because of the accurate temperature control in the Wells Thermosealer.

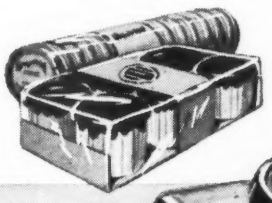


Meats, fish, fowl (fresh or frozen), bacon, hams



Gifts, photographs, stationery, bottles, toilet goods, tools

Vegetables, fruits (fresh, frozen, dry), cheese, macaroni, delicatessen products



Cakes, cookies, candy, flowers, boxes, labels

Plugs into any Alternating-Current Convenience Outlet of 110 volts. Properly Insulated and Built for Safe Use. Has long-lasting full-size Heating Element. Adjustable Temperature Control of high accuracy.

STYLE TF

Listed by Underwriters' Laboratories, Inc.

The Wells Thermosealer, built of Aluminum and weighing but 10 ounces, does not fatigue the operator.

Low in cost, light in weight, the Wells Thermosealer is recommended by packaging engineers the nation over and by manufacturers of modern heat-sealing materials because it is handy, long-lasting and seals properly in less time.

Sold By Dealers in Heat Sealing Materials

WELLS MANUFACTURING CO.

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After 63 years of pioneering

1885—NEW YORK—Original office and factory

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1924—BOSTON—Warehousing
1926—PHILADELPHIA—Warehousing
1930—LONDON—Office and warehousing
1931—SAN FRANCISCO—Office and warehousing
1935—SAN FRANCISCO—First Pacific Coast factory and laboratory
1941—PORTLAND, ORE.—Warehousing
1943—LONDON—New office and factory
1947—SAN FRANCISCO—New office, factory and laboratory
1947—ST. LOUIS—Factory
1948—ATLANTA—Warehousing
1948—LONDON—New office and factory

1948—LOS ANGELES—Factory

The original founders of The Arabol Manufacturing Co. set out to produce new, clean, odorless glues—to replace many former applications of animal glues. . . . *Sixty-three years later*, the firm is still pioneering in the making of virtually every type of adhesives.

For many years, Arabol has been privileged to serve the leaders in a hundred industries. In order that Arabol service shall keep pace with customers' needs—new offices and factories, enlarged factories and laboratories and new warehousing facilities have been steadily added.

We are proud of the above record and the facilities they represent. They will be further increased.

We invite the opportunity to serve you. Whether your adhesives requirements are for packaging, converting, labeling, carton or case-sealing, or in the actual manufacture of your wares—it is our aim to provide the one specific adhesive for each application.

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McCLINTOCK CUTTERS

AVAILABLE IN SIZES FOR ALL STANDARD ROLL WIDTHS

Specify

McClintock

ALL-STEEL — ALL-WELD

CELLOPHANE *Cutters* & PAPER *Cutters*

This newly developed McClintock Cellophane Cutter is acclaimed nationally as the first cutter to successfully and economically shear cellophane sheets from rolls without waste or tearing.

It cuts clean. Never a ragged edge. Quickly amortizes its initial low cost by preventing waste and saving paper.

All McClintock cutters are equipped with Multiple Leaf Type Springs. No assembly required—comes ready for use. No maintenance—no nuts or bolts to tighten. Patented, exclusive, adjustable screw tension device keeps paper under absolute control down to the last sheet. This feature controls rate of paper feed and allows no waste.

IMMEDIATE DELIVERY

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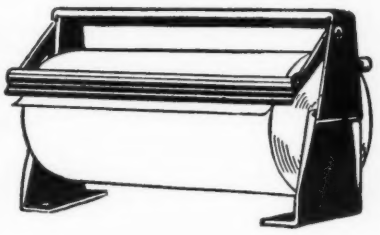
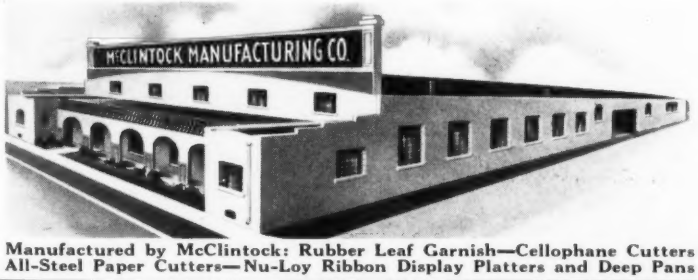
Write for Catalog and Prices



Install or replace now with McClintock Paper Cutters. Many large national organizations have standardized on McClintock Cutters because they definitely save money and paper. Paper is easy to load—just rolls into place. Available in widths 9 to 60 inches—also hanging cutters for walls, under counters, between shelves, or back of counters. Properly engineered for pyramiding. Attractively finished in Duco Black Wrinkle. Deliveries made all set up—ready to use.



Manufactured by McClintock: Rubber Leaf Garnish—Cellophane Cutters
All-Steel Paper Cutters—Nu-Loy Ribbon Display Platters and Deep Pans

Main Office and Factory • 3044 Riverside Drive, Los Angeles 26, Calif.

Rossotti Helps Your Package Capture "Impulse" Sales!

What makes an "impulse buyer" buy? Chances are it's a label or carton that compels attention . . . fairly shouts to be taken home! That's the kind of shelf impact Rossotti packaging delivers to your product! Impact that snares a lion's share of "impulse" sales . . . along with a large volume of planned purchases . . . and builds brand preference either way!

Here are five fast-selling packages that capture more than a fair share of the 40% of sales that are unplanned! Each was produced in one of Rossotti's three plants!

Your product, too, can benefit from Rossotti's dynamic packaging service . . complete from creative label or trademark design right on through to brilliant, live-color reproduction! Market research, copy planning and other alert factors combine to give you packaging that sells on sight! And only Rossotti gives you the extra measure of expertness developed through 50 years of specialized experience.

Whatever your problems . . . for powerful, forceful packaging that sells itself at the shelf . . . call in Rossotti now! Consultation without obligation.

ROSSOTTI 1898 1948 GOLDEN ANNIVERSARY

Rossotti
SINCE 1898

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Dot-ty
PATENTED
FOLDING CAKE BOX

Saves counter space

Simplifies removing cake

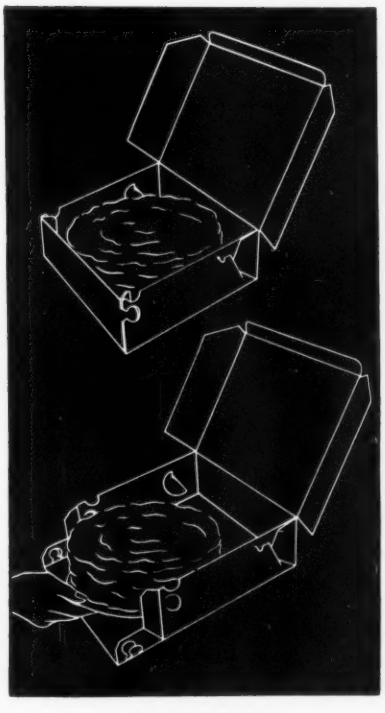
Costs no more

The Dot-ty* cake box is an improved folding cake box with exclusive features that will please both the baker and his customers.

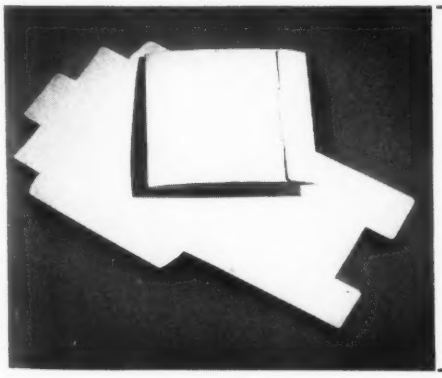
Here is how the baker benefits . . . Dot-ty cake boxes can be nested compactly in groups of 25 or more, ready for instant use, as illustrated. If the box is to be used for cookies, the front drop may be raised and secured by the two side locks, otherwise, the front drop is held up by the tuck of the cover. Hence, they save the baker's time in serving customers; give him more valuable counter space for cake display; and cost no more.

The Dot-ty cake box pleases housewives because the cake is easily removed without any risk of damaging the cake: by simply raising the cover, the front drops and the cake slides out easily, quickly, and safely.

If you're interested in saving counter space and gaining consumer good will, write now for complete details and samples for test and inspection.



HOUSEWIVES LIKE
PATENTED DROP-FRONT
Makes cake removal easy and *safe*



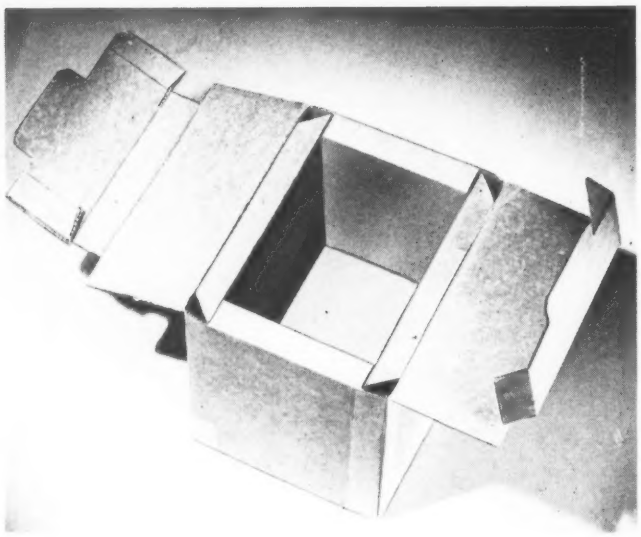
NEW PATENTED GIFT FOLDER

Used exclusively by such smart stores as The Emporium in San Francisco, this chic, compact container is ideal for gift packaging items like handkerchiefs, neckties, scarves, gloves and the like. Simple patented design eliminates unsightly clasps, makes opening and closing quick and easy.

UNITED PAPER BOX CO.

*Reg. U.S. Pat. Off.

460 BRYANT STREET, SAN FRANCISCO, CALIFORNIA



This is DUO-PAK

the insulated corrugated box

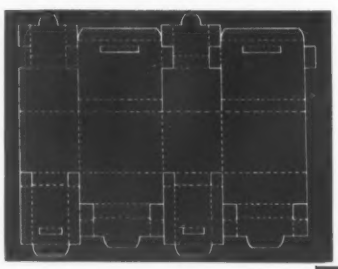
. . . for refrigerated perishables

. . . for fragile merchandise

DUO-PAK, the low cost, double-walled box, is designed for the packing of perishable products and fragile merchandise. It has a protective dead air space on *all six sides* which serves to control temperatures and to protect box contents from shock, punctures and rough handling. It's actually a box-within-a-box.

Moreover, DUO-PAK costs less than any box now on the market that offers equivalent protection. Reason: it's constructed from *one* piece of die-cut board; hence requires *less* board per box. And DUO-PAK costs less to ship because it folds *flat*.

Converters: Note single die-cut blank



For detailed information about DUO-PAK fill out and mail the coupon now.

This item can be manufactured and handled by Fibreboard Products, Inc., 710 Russ Bldg., San Francisco, California.

MAIL COUPON NOW FOR FREE SAMPLE AND FREE BROCHURE

DUO-PAK CONTAINERS
444 Market Street
San Francisco, Calif.

DUO-PAK CONTAINERS,
444 Market St., San Francisco, Cal.

Gentlemen:

☐ Send me a free DUO-PAK container for examination, plus free descriptive brochure. We are packers of.....

.....

☐ We'd like to know about your licensee arrangement for converters. Send us data.

Name..... Title.....

Company.....

Place.....

There's a

VREDENBURG PACKER

for every need!

Model 120 FGS Special, shown at right, is designed to handle all grades of powdered materials. It fills valve type and open mouth paper bags from 25 to 100 pounds capacity. Accuracy is ¼ to ½ pound plus or minus per 100 pounds! Speed is up to four 100-pound bags per minute, depending on material. Completely enclosed, this machine makes certain the operator is kept entirely free from dust!

WRITE TODAY for data on the Vredenburg Alfalfa Meal Packer and other machines for filling and weighing granular, abrasive, non-abrasive, free flowing, semi-free and non-free flowing materials.

Manufactured by

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MODERN PACKAGING MAGAZINE

122 E. 42nd Street New York 17, N. Y.

there's Sales Magic in *Old World Glamour*

....for
candies, teas, cakes, nuts

MORE and more packagers are discovering the sales magic of these excitingly lithographed and embossed containers imported from the British Isles. Products packaged in them, from handkerchiefs and writing papers to nuts and fruitcakes, command—and get—*volume sales.*

Why? First, they promote impulse buying. Second, they possess exceptional re-use value—as sewing boxes, as cookie jars and as permanent decorative accessories for the home. Third, they make perfect gifts. Fourth, as lasting reminders of your product, they stimulate repeat sales.

These sales-makers extraordinary are available in any of 28 unusual designs and in a number of sizes. Prices are exceptionally lower than their appearance and fine workmanship would suggest.

Write today for particulars.

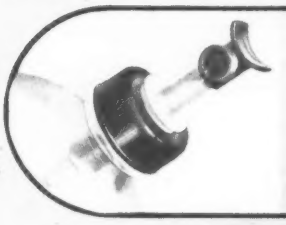
BOOTH 306, WESTERN PACKAGING EXPOSITION

Fancy Container Division

I. D. COMPANY

150 Spring Street New York 12, N. Y.

AGAIN from CALMAR... 2 new liquid dispensers

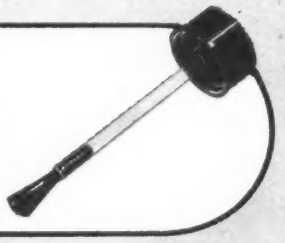


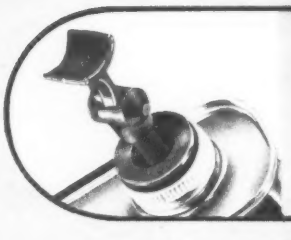
SPRAYER*

Low cost is feature of this non-corrosive, colorful, all-plastic sprayer. Possesses high visual appeal, strong re-use value. For use with practically any sprayable or dispensable liquid product: glass cleaner, disinfectant, deodorant, medicament, cosmetic, liquid food or flavor. Available with 22, 24, 28, 30, 33 mm. metal or molded plastic caps for bottles and cans.

BRUSH APPLICATOR

Perfect for applying nail polish, plastic cement, plastic dyes, adhesives, paints, lacquers and countless other products. Glass rod eliminates corrosion. Hair permanently secured — will not come out. New, inexpensive.





INSECTICIDE AND DEODORANT SPRAYER

For home, hospital and industrial use, where large volume of fine mist is desirable. All plastic, non-corrosive. Made to fit any size bottle or can. New, efficient, durable, inexpensive.

Your inquiry will draw prompt and detailed information about these and other new sales stimulants for your liquid products.

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Protection against the damaging moisture inside the package is now economically practical with Desiccite*, the highly efficient, low-cost drying agent produced by one of the world's largest manufacturers of desiccants. Whatever you package—from foods to metal products—can be economically moisture-protected by packaging with Desiccite.

Filtrol packaging engineers will gladly consult with you on your packaging problems. Write today for full information.

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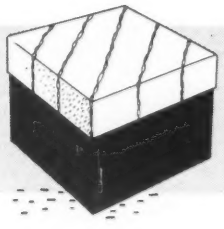
BECAUSE GOOD PRODUCTS DESERVE GOOD PACKAGING

ACME PAPERBOX CO.

makers of **SET-UP BOXES**



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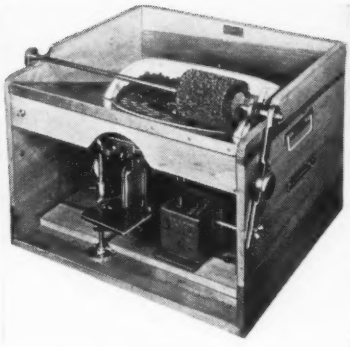
"CUT YOUR COUNTING & PACKING COSTS"



Says Count Packer

Reduce your packaging overhead by getting fast, accurate counts and efficient packing of tablets, capsules, pellets, candies and other small objects of uniform size with Fairchild's **Variable Speed Electric Counter-Packer.**

Check these features—

- **Operates by actual count, not by weight.**
- **Counts 25, 50 or any other number of units.**
- **Capacity—2,100 full counts hourly.**
- **Foolproof construction, hardwood casing.**
- **Portable—movable to any work point.**

Send approximately 1 quart, bulk, of your product plus several consumer packages. (Product returned upon request.) We'll run speed tests and send you a full report, plus an illustrated bulletin further describing Fairchild's Variable Speed Electric Counter-Packer.

NO PLUS, NO MINUS, ACTUAL COUNT

FAIRCHILD'S, INC.
5442 FERNWOOD AVE., LOS ANGELES 27, CALIF.

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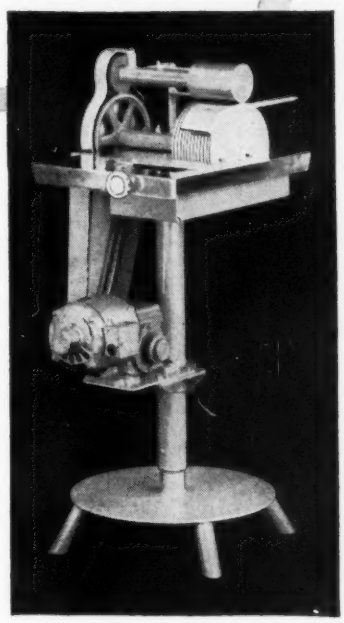
Popper & Klein, *Eastern Distributors, New York*

DUBIN HI-SPEED GLUER

40-50 CARTON FLAPS UNIFORMLY GLUED PER MINUTE



WITH the new Dubin Hi-Speed Carton Flap Gluer, you can apply a uniform glue film as fast as you can feed the machine. Gravity controlled platen roller automatically conforms to flap thickness up to ¼". Adjustable height. Easily moved. Requires no bolting. Any type of cold water glue can be used. Occupies but a 20-inch square. Automatic safety stop. Low in cost and easy to maintain.

WRITE TODAY FOR DETAILS

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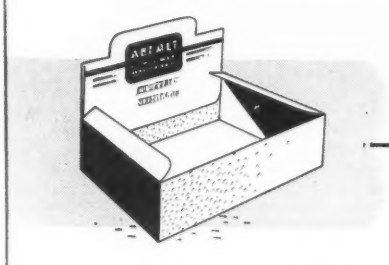
BECAUSE GOOD PRODUCTS DESERVE GOOD PACKAGING

PAPERBOX CORP.

makers of **FOLDING BOXES**



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- EMBOSSED FOIL LABELS and Seals - in beautiful color combinations.
- HIGH-GLOSS LABEL PRINTING a specialty - in one or more colors, plain or die cut, hundreds of shapes to choose from.
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- ARTISTIC DESIGNS - By label experts, made in our own Art Department.
- LABEL LAWS change constantly. We have the latest bulletins on FOODS - DRUGS - COSMETICS.

WESTERN LABEL CO
LABELS SEALS
1129-1131 WALL ST.
LOS ANGELES 15, CALIFORNIA

Most Complete line of Closures in the West!

PACIFIC COAST DISTRIBUTORS FOR:

ARMSTRONG Champagne and Still Wine Corks, Cork Stoppers, Wood Top Corks, Metal and Molded (Plastic) Caps.

DUPONT "CEL-O-SEAL" Bands and "WIND-O-BAND" Seals.

PLAN TO SEE OUR EXHIBIT BOOTH NO. 6 AT THE

I. F. SCHNIER *Company, Inc.*

683 Bryant St., San Francisco 7 • 500 Commercial St., Los Angeles 12

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Faster Handling of Small Labels

This plus combination can mean a real saving to you

NEW ARCHER CONTACT LABELS

1. Stick without moistening.
2. Adhere tightly to plastics, glass, metals, enamelware—any smooth, non-porous surface
3. Won't dry out and fall off . . . ever.
4. Removable without soaking or scraping.
5. Mounted on wide (4½") backing strip in roll form.
6. Stock or special shapes to meet your individual requirements.
7. Printed in one or more colors on white, colored or metallic papers.

NEW ARCHER LABEL DISPENSER

1. Dispenses not just one label at a time, but an entire 4" wide row of labels. As many as 10 at a time.
2. Simplified loading.
3. Label automatically removed from backing and presented ready for immediate use.
4. Tested and approved through actual use.

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Archer LABEL COMPANY

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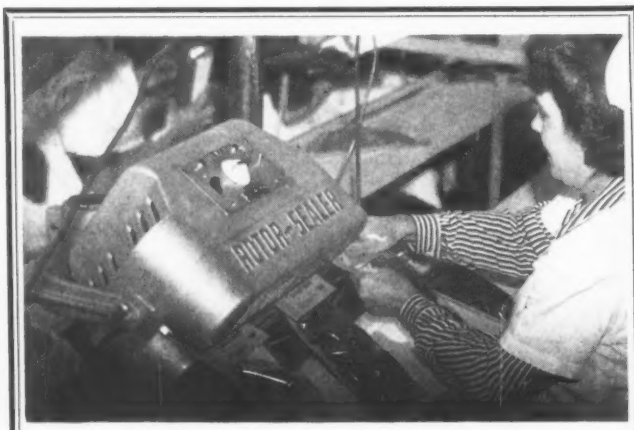
LOS ANGELES 26, CALIFORNIA



ROTOR-SEALER solves bakery, dried fruit, and other sealing problems!

THE PRODUCTION LINE HEAT SEALER DESIGNED FOR DIFFICULT PROBLEMS!

THE CHAFFEE ROTOR-SEALER is especially designed for difficult heat sealing, such as bag tops on bags. Its unique method of heat application and immediate forced cooling speeds up sealing of pliofilm, polyethylene, and saran on a line production basis.

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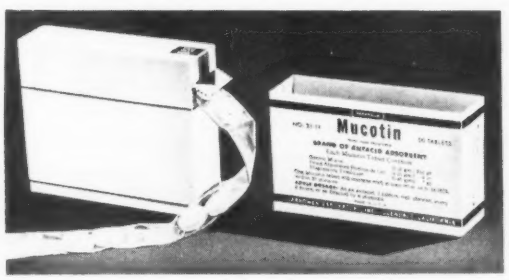

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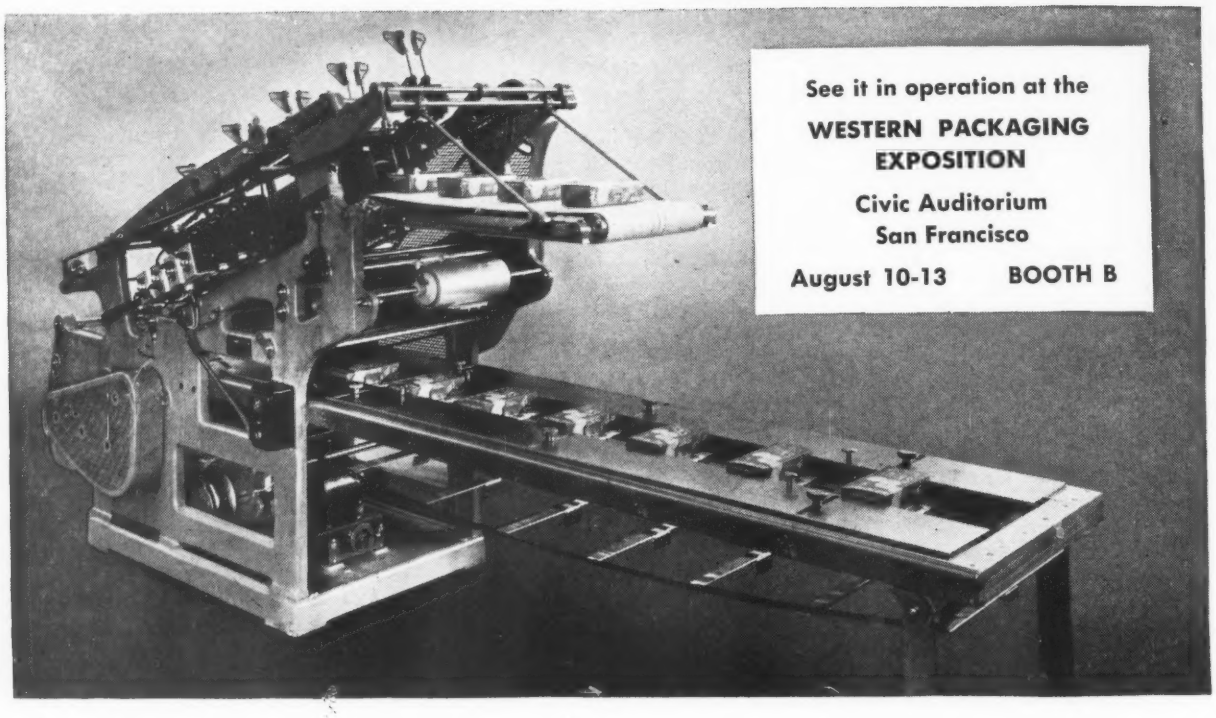

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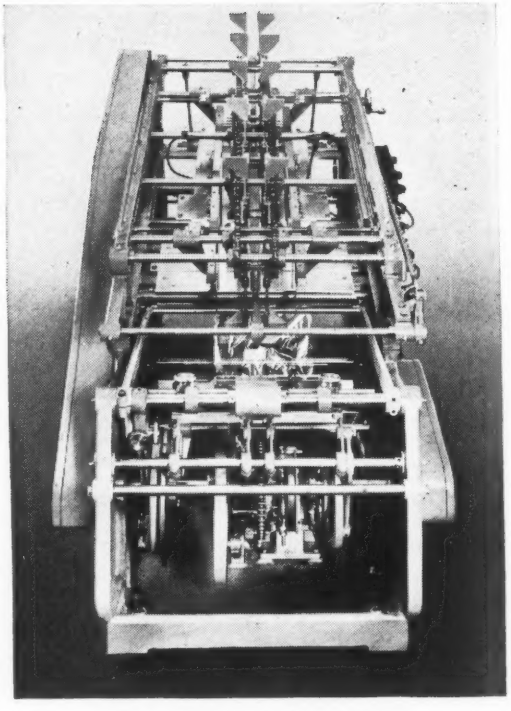

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PLASTICS AS PAPER COATINGS

A summary of characteristics desired in coatings and an examination of the properties of each of the available materials. By WILLIAM H. AIKEN*

Plastic materials belong to that family of organic chemicals known as high-polymer materials that are composed of a great number of similar units joined together to give giant molecules of varying sizes. The increased usage of plastic materials in paper manufacture in recent years has caused widespread interest in the paper industry in this particular class of high-polymer materials; however, the paper industry has always been a very large user of high-polymer materials.

Paper is manufactured from fibres that are composed primarily of cellulose and hemicelluloses—all polymers of high molecular weight. Casein, glue and other proteins, as well as starches—used for adhesives and as coatings for paper—are high polymers. Before the war, large quantities of natural rubber latex, a high polymer, were used to impregnate paper for specialty applications. Today synthetic rubber latices are used to impregnate and coat paper. Modern adhesives may include solutions or dispersions of synthetic rubbers or resins.

Thermosetting plastic materials—those which cure upon heating to lose their ability to flow under heat and pressure—are used in many ways with paper products.

Melamine and urea resins are used to give wet strength to paper and paperboard. These two resins, as well as phenolic resins, are impregnated into paper for molding purposes, the paper acting as a reinforcing filler. Thermosetting resins are impregnated into paper and the impregnated sheet used as a bonding sheet for plywood.

The greatest expansion in production in the plastic industry in recent years, however, has been in thermoplastic materials—those which do not cure on heating, but retain their ability to flow under heat and pressure. The wide variety of properties offered by the various thermoplastic materials has made them of increasing importance to the paper industry. It therefore is of interest to review the various thermoplastic materials for their utility to the paper industry. This will be done only from the standpoint of surface coatings for such applications as adhesives, impregnants, etc., are beyond the scope of this article.

* Assistant manager, Chemicals Division, Goodyear Tire & Rubber Co., Inc., Akron, Ohio.

Characteristics desired

Plastic coatings are applied to papers for both functional and decorative effects. A given coating may be used for one or several of the properties it may possess. Below are given a number of properties considered important in paper coatings.

Waterproofness. The requirements for waterproofness of a coated paper may vary from the ability to shed water to the ability to be left in contact with liquid water without harmful effects to either the coating or the base paper. Fortunately, most of the plastic materials show excellent resistance to water.

Resistance to the passage of water vapor. Coatings for paper to be used in many packaging applications are required to have a degree of resistance to the passage of water vapor. No coating gives complete protection from the passage of water vapor, but a few coatings are available which are excellent in this respect. The period of time for which protection is required must be taken into consideration in selecting a coating as a water-vapor barrier. Very resistant coatings are obtained by compounding with small amounts of wax.

Greaseproofness. Resistance of the coating to penetration by grease is of importance in many packaging applications. Unfortunately, the coatings which give the best grease resistance are somewhat water sensitive and do not give good water-vapor protection. There are several coatings which give both fair grease resist-

ance and fair resistance to the passage of water vapor. Both excellent grease resistance and excellent water-vapor resistance can be obtained by applying a water-vapor-resistant coating to a greaseproof base paper.

Toxicity. Paper coatings, especially those used in contact with foods, should not cause either dermatetic or systemic toxicity. Most of the plastic materials used in coatings are satisfactory from this standpoint. Other materials added to the coating, such as plasticizers, modifying resins, waxes, stabilizers, etc., must also be carefully selected to give to the paper a non-toxic coating.

Taste and odor. Mild tastes and odors are not objectionable in coatings for some applications, but for many packaging applications they are objectionable. Fortunately, most of the plastic materials used for paper coatings are relatively free of taste and odor. As in the case of toxicity, modifying materials must be carefully scrutinized to prevent taste and odor being introduced into the coating from these sources.

Plasticizer retention. It is necessary to add plasticizers to many plastic materials to overcome brittleness, especially at low temperatures. The ideal plastic material for coating from this standpoint is one that requires no plasticizer. Unfortunately, few of the coating materials fulfill this requirement. For those plastic materials where plasticizer must be used, plasticizers should be chosen that show a minimum of loss by volatilization, migration or leaching, or otherwise the properties of the coating will suffer due to plasticizer loss. For coatings used in packaging, it is important that the plasticizer not migrate to the packaged material.

Resistance to creasing. Coatings for papers to be formed into bags on automatic machines should have good resistance to creasing to minimize the loss of such properties as water-vapor resistance.

Heat sealing. Paper coatings for many applications, especially in the packaging field, must be capable of being fabricated by heat sealing. Many users of coated paper demand that the heat-sealed seam be stronger than the internal bond of the paper itself. That is, when the seam is tested, failure should occur due to the paper tearing rather than to separation of either the two coated surfaces or the coating from the paper. Several coatings are available which will give such tearing heat seals. For some applications (such as the wrapping of bread) the wrapped package slides past the heat-sealing irons. Difficulty was encountered with many types of coatings on these applications due to the coatings clinging to the hot irons. In recent years this difficulty has been overcome by placing a sheet of Teflon, which apparently prevents sticking of all coatings, over the heat-sealing iron.

Blocking characteristics. A coating which tends to cling or stick in the roll at room or slightly elevated temperature is undesirable. Paper coatings are expected to be free of blocking tendency up to 120 deg. F.

Surface characteristics. Controlled surface frictional characteristics are desired in many coated papers. If the coating has too little "slip," it may tend to cling in the roll and difficulty will be encountered in separating cut sheets of the paper. If the coating has too much "slip," the paper will tend to slip in the roll and stacks of sheets will tend to "flow."

Strength characteristics. For most applications, the coating is not required to add strength to the paper. However, heavy coating weights of elastomeric plastic compounds greatly strengthen the base paper.

Adhesion. The coating should form a strong bond to the base paper to prevent delamination upon folding and creasing, and at heat-sealed seams.

Gas transmission. Resistance of the coating to penetration by gases is of importance in many packaging applications.

Low-temperature characteristics. For many applications, especially in the packaging of frozen foods, paper coatings should not delaminate from the paper on flexing or crack on creasing.

Coating weight. Plastic materials used for coatings are usually expensive compared to the base paper to which they are applied. It is therefore desirable to keep the coating weight as light as possible while still realizing the desired properties. The amount of coating required to do a given job is largely governed by the smoothness and density of the paper to which it is applied. For example, the following coating weights are required to give the same water-vapor resistance on three papers with different types of surfaces:

Paper	*Coating weight to give a certain degree of water-vapor resistance*
Glassine	3#/ream
Supercalendered kraft	7#/ream
Uncalendered kraft	13#/ream

The rougher and more porous the sheet, the more coating required to level and fill up the sheet before protection is realized. The density of the coating will deter-

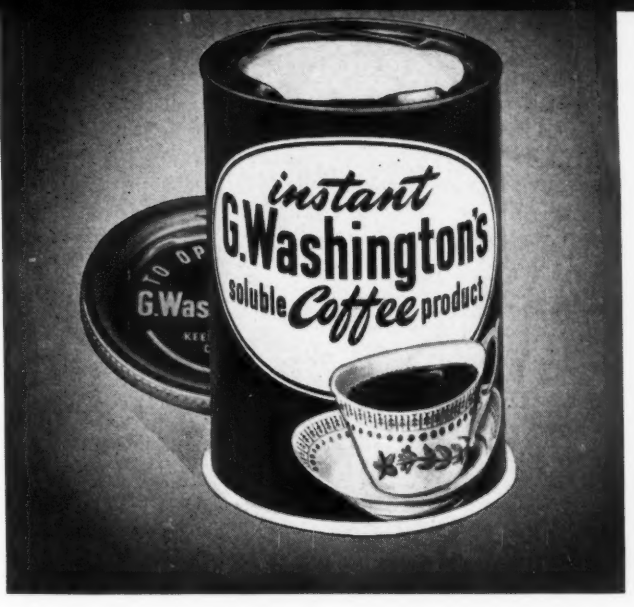
THE AUTHOR ranks as one of the country's outstanding authorities on plastic films and coatings. He served during the war as a captain in the Quartermaster Corps in charge of research on plastic films at Brooklyn Polytechnic Institute sponsored jointly by QMC and the National Research Council and is now assistant manager of the Chemicals Division of Goodyear Tire & Rubber Co., Inc., Akron, Ohio. Dr. Aiken has been the author or co-author of three previous articles in the Technical Section of MODERN PACKAGING: "Water-Vapor Permeability—What It Is and How It Works," in August, 1945, p. 137; "New Plastic Films—Their Packaging Qualities," in May, 1946, p. 141, and "Film Manufacture—An Outline of Methods," in December, 1946, p. 147. In this article he discusses the special packaging properties that may be added to papers by the various plastic coatings.

Dr. W. H. Aiken

mine what weight of coating must be applied for a given film thickness.

Aging characteristics. It is desirable that paper coatings undergo no undesirable change with aging, such as stiffening, loss of heat seal and discoloration. Unfortunately, most of the paper coatings are not perfect from the aging standpoint.

Applications. The coating material must lend itself to application to the paper by one of the several methods. Coatings are applied to paper from solution, from aqueous dispersion or from non-aqueous dispersion. They have also been applied by calendering and from hot melts. Coatings applied by all of the methods except hot melt are composed primarily of a plastic material that may or may not be modified with other materials. Materials applied by all of these methods are discussed. Hot melts may be composed primarily of plastic materials modified with other materials, but they are often other materials (such as waxes) modified with plastic materials. Hot-melt coatings will therefore be omitted from the discussion.



PROTECTIVE DRUM SEAL in coffee can is bleached sulfate paper coated one side with cyclized-rubber-base material (Marbon). Coating is water-vapor barrier, provides heat seal to can lip. PHOTO COURTESY RIEGEL PAPER CORP.

Properties of various plastic materials

Since no one plastic material is ideally suited for all coated-paper applications, it is difficult to judge a material as satisfactory or unsatisfactory unless it is judged for a specific application. Therefore, this discussion will only point out the outstanding characteristics of each material as well as its limitations and examples will be given of typical paper coating uses.

Cellulose nitrate. Cellulose nitrate is one of the most widely used coatings for both functional and decorative papers. The resin is not used alone, but is modified by one or several materials, depending upon the end use of the coated paper. A typical water-vapor-resistant coating may contain, in addition to the cellulose nitrate resin, the following ingredients:

a. A *plasticizer*, such as dibutyl phthalate or dibutyl sebecate, to give flexibility and eliminate brittleness.
b. A *modifying resin*, such as a modified ester gum to improve gloss, to improve adhesion and heat-seal strength, and to lower cost.
c. A *wax*, to give water-vapor resistance, slip and perhaps to raise the blocking temperature.

Cellulose nitrate of the RS type—soluble in esters and ketones—is usually used for paper coating. A solvent combination is most commonly used. This consists of:

a. An active *solvent*, such as ethyl acetate.
b. An *alcohol*, such as ethyl alcohol, which is not itself a solvent for the resin, but when used in conjunction with an active solvent produces a solution of lower viscosity than does the active solvent alone.
c. A *diluent*, such as toluene.

While such solvent mixtures are low in cost, their complexity causes difficulties and inefficiencies in solvent recovery.

RS cellulose nitrate of $^1/_2$-second viscosity is used for most paper coating applications because of the high solids obtainable in coating solutions with this resin. However, it is somewhat lacking in crease resistance; a water-vapor-resistant coating based on $^1/_2$-second cellulose nitrate may increase tenfold in water-vapor-transfer rate upon creasing. Cellulose nitrate of $^5/_6$-second viscosity is used for greater crease resistance.

Papers coated with heat-sealing, water-vapor-resistant nitrocellulose lacquers are used extensively as wraps for such items as bread and as bags for such products as popcorn, potato chips, peanuts, etc. High gloss cellulose nitrate lacquers are used to coat label paper. Box papers and other decorative papers may be prepared by using colored cellulose nitrate lacquers, or those to which metal powders have been added. Crystal papers are prepared by adding a material to the cellulose nitrate lacquer that will crystallize upon drying. When the coating is dry, the crystallized material is then leached to leave a permanent crystal finish.

Artificial leather may be prepared by coating paper with a cellulose nitrate lacquer highly modified with raw linseed oil.

Cellulose acetate. Cellulose acetate gives a paper coating that has better heat and light stability than cellulose nitrate. However, because of its limited compatibility with other materials, its limited solubility and its higher price, cellulose acetate has not been used extensively for paper coatings.

Ethyl cellulose. Ethyl cellulose is soluble in a wide variety of solvents, including esters, ketones, alcohols and aromatic hydrocarbons. Mixtures of the latter two are usually used. Ethyl cellulose is compatible with a wide variety of plasticizers, including esters, mineral oils and some vegetable oils. It can be modified with phenolic resins, rosins and rosin esters.

Ethyl cellulose is resistant to many chemicals and to

TYPICAL APPLICATIONS of plastic coatings to glassines and other forms of paper in packages requiring water-vapor protection. The examples shown here use a cyclized rubber (Pliolite). PHOTO COURTESY GOODYEAR TIRE & RUBBER CO.

grease. It is not resistant to the passage of water vapor and it does not tend to discolor upon prolonged exposure to light. It has been used extensively in the preparation of washable wallpapers.

Polystyrene. Polystyrene-coated papers have been used to a very limited extent for electrical applications. Although this coating has excellent electrical properties, its brittle nature limits its serviceability; effective plasticizers have not been found for polystyrene. Polystyrene is resistant to a wide variety of chemicals, but its resistance to the passage of water vapor is mediocre.

Cyclized rubber. Cyclized rubber has been used extensively as a paper coating—especially for glassine to be used for protective packaging. It possesses a combination of heat-seal strength, anchorage to the paper and resistance to the passage of water vapor not found in other coatings.

Cyclized rubber is readily soluble in aliphatic hydrocarbons, aromatic hydrocarbons, terpene hydrocarbons and chlorinated hydrocarbons. The viscosity of the solution can be controlled by a choice of solvent. This is illustrated in the following table which gives the relative viscosity of solutions of cyclized rubber in a number of solvents at the same solids content:

High test gasoline	1.0
Toluene	1.4
Naphtha	2.0
Kerosene	4.5
Turpentine	6.0
Carbon tetrachloride	35.0

In order to simplify preparation of the coating and also to simplify solvent recovery, a simple solvent such as toluene usually is employed.

Cyclized rubber is compatible with coumarone-indene resins, polyterpene resins, modified styrene resins, modified phenolic resins, alkyd resins, maleic resins, rosin, rosin esters and damar. None of these modifying materials appears to be of much value in cyclized rubber coatings. For some uses, reasonably small quantities of one of these resins may be used to extend the cyclized resin without appreciably detracting from its properties, but for most uses a modifying resin is not used. One exception to this is in label coatings, where fairly large amounts of damar are used to obtain higher gloss.

Cyclized rubber is plasticized by drying oils, mineral oils, ester-type plasticizers, crystalline and microcrystalline paraffin waxes, montan wax, beeswax, rubber and synthetic rubbers. None of these materials add worth while properties to cyclized-rubber coatings with the exception of the waxes, which not only act as plasticizers, but also greatly improve the water-vapor resistance of the coating. A typical coating consists of 100 parts of cyclized rubber and 15 parts of paraffin dissolved in toluene.

Such a coating applied to glassine in amounts of 2.5 to 3.0 lbs. per 3,000 sq. ft. ream shows a water-vapor-transfer rate of about 0.3 gm./100 sq. in./24 hrs. Such coated papers are used for packing a wide variety of products where protection from passage of water vapor is important.

Polyvinyl chloride and vinyl chloride copolymers. The production of polyvinyl chloride and vinyl chloride copolymers (consisting of large amounts of vinyl chloride with small amounts of other materials such as vinyl acetate) has increased over a hundred-fold in this country since 1939. In recent years, increasing amounts of these resins have been used in paper coatings.

The vinyl-chloride-type resins vary widely in their properties, depending upon their composition and molecular weight. The resins of high vinyl chloride contents have high molecular weights and give the most durable coatings. However, these resins are relatively insoluble. The resins modified in the range of 15 to 20% with other monomers have lower molecular weights and exhibit good solubility in ketone solvents.

The vinyl resins can be plasticized and softened with a wide variety of materials, including esters, Buna N rubber and petroleum derivatives. Dioctyl phthalate is perhaps the most useful all-purpose plasticizer used with vinyl resins. For those applications where a hard, glossy coating is required, only a few parts of plasticizer may be used. However, for most vinyl-chloride-type paper coatings, 30 to 50 parts of plasticizer are used to give a tough, flexible coating. Such coatings add materially to the strength of the base paper.

Vinyl-chloride-type coatings are resistant to a wide variety of acids, alkalins, fats and oils. They are waterproof and in the heavy weights in which they are usually applied exhibit a fair degree of resistance to the passage of water vapor. Although neither the oil resistance nor the water-vapor resistance of vinyl-chloride-type coatings can be classed as excellent, these resins give a good balance of good grease resistance and fair resistance to the passage of water vapor.

Vinyl-chloride-type coatings are applied to paper by any of the following four methods:

a. Calendering. The first extensive use for paper

coated with vinyl-chloride-type resins was for bottle-cap liner paper. This sheet was prepared by calendering a fairly high plasticized vinyl resin of high vinyl chloride content onto paper at a thickness of 0.002 to 0.003 in. The excellent chemical resistance of this coating makes it useful for a wide variety of drugs, cosmetics and condiments. The toughness of this flexible heavy coating gives a good sealing surface. Paper calender-coated with vinyl has been partially replaced for this use by paper coated with vinyl from non-aqueous dispersion.

b. Solution coating. Because of the insolubility of the high-vinyl-chloride-content resins, the more highly modified vinyl-chloride-type resins have usually been used for solution coatings. With these resins, solutions of usable solids and viscosities may be obtained with such solvents as methyl ethyl ketone. Label coatings of high gloss have been prepared from these soluble vinyl resins.

c. Non-aqueous dispersion. Certain grades of vinyl-chloride-type resins can be dispersed in plasticizer by the use of proper mechanical treatment, such as ball milling. Dispersions of workable viscosity that contain only resin and plasticizer are too highly plasticized to be of interest for most paper coatings. To give workable viscosity without over-plasticizing the resin, the plasticizer is diluted with a non-solvent for the resin, such as an aromatic hydrocarbon. This dispersion of resin in plasticizer-diluent mixtures (known as organosols) may contain 50 to 65% solids. After they are applied to the paper, the diluent is driven off and the coating is heated at an elevated temperature for a short time—350 deg. F. for one minute, for example—to fuse the resin and plasticizer into a homogeneous film. The coating is usually applied in thickness of 0.001 to 0.003 in. This process has the advantage that high-molecular-weight resins can be applied even up to very heavy coating weights in reasonably inexpensive equipment without serious fire hazard. In recent years, very large amounts of organosol-coated paper have been used for shelf paper, wall and table coverings and bottle-cap liners.

d. Aqueous dispersion. Aqueous dispersions of vinyl-chloride-type resins are available for paper coating. These dispersions have the advantage of high solids (over 50%), no solvent hazard and improved adhesion. They are available either as unplasticized or plasticized dispersions. A plasticizer dispersion must be added to the unplasticized material and upon drying, the coating must then be fused at an elevated temperature for a short time to give a continuous coating. The plasticized dispersion consists of a dispersion of plasticized particles that can be dried to a continuous film at a somewhat lower temperature.

Vinylidene chloride polymers. Polymers of very high vinylidene chloride content, such as are used for extruding into films and filaments, are not sufficiently soluble to be applied to paper from solution. More highly modified copolymers are soluble in such solvents as ketones, but removal of the last traces of solvent from the coating presents a problem. Interesting coatings have been prepared from latices of these more highly modified copolymers of vinylidene chloride. The latices are usually softened with 5 to 25% of a plasticizer such as dibutyl phthalate. Coatings containing less than 15% plasticizer are improved by heating for a few minutes at 100 to 110 deg. C.; however, those containing more than 15% plasticizer form tough continuous films upon drying. A coating thickness of approximately 0.0005 in. is required to give a continuous coating from polyvinylidene chloride copolymer latex. Such a coating has outstanding resistance to oils, greases and many chemicals. It possesses good waterproofness, gloss and heat-sealing properties. The resistance of the coating to the passage of water vapor is mediocre; a film 0.0025 in. thick transmits about 1 gm. of water vapor per 100 sq. in. per 24 hrs. Polyvinylidene-chloride-copolymer-latex-coated paper should be of special interest for use in packaging oily and greasy foods, as well as for corrosive chemicals. The latter has also been suggested for preparing waterproof wallpaper, shipping containers, gummed tapes and woven paper cord.

Polyethylene. Polyethylene is insoluble in all solvents at room temperature, but at elevated temperatures it is soluble in aromatic hydrocarbons and chlorinated hydrocarbons. Hot solutions of the resin in these solvents are used to coat paper. Polyethylene requires no plasticizer or other modifying agents, but the resin itself gives a tough, flexible coating that does not become brittle until temperatures below minus 50 deg. C. have been reached and which is free from blocking at temperatures above that at which most coatings block. Polyethylene is odorless, tasteless and non-toxic and has excellent resistance to a wide range of chemicals. Its resistance to the passage of water vapor is better than that of most plastic materials, but not nearly so good as the coatings to which wax is added. Polyethylene-coated paper has been used for packaging resins and it should find usage in bottle-cap liners, in packaging various chemicals and in packaging frozen food.

Polyvinyl butyral. Solution coatings of polyvinyl butyral have been applied to metal foils to give heat-sealing coatings. However, as it is difficult to obtain bubble-free coatings from these solutions, they are of limited interest for paper coatings. Aqueous dispersions of plasticized polyvinyl butyral have been used for coating paper. The outstanding characteristic of the coating is good resistance to greases, fats and oils. Although its resistance to the passage of water vapor is poor, the coating has good resistance to liquid water. The latex has been suggested as a treatment for paper fibre to be used for rugs, mats and seat covers in order to improve appearance and serviceability.

Zein. The corn protein known as zein is soluble in 90% alcohol, as well as in glycols. It can be modified with such materials as rosin, hydrogenated rosin, fatty acids, shellac and coumarone-indene resins to give waterproof coatings of good gloss and excellent grease resistance. Zein coatings are used as label coatings and in preparing decorative papers, greaseproof food wrappings and anti-corrosion wrappings.

POLYETHYLENE PERMEABILITY

Preliminary study develops simple test for approximate transfer rate of liquids through extruded polyethylene film. By J. H. PARLIMAN*

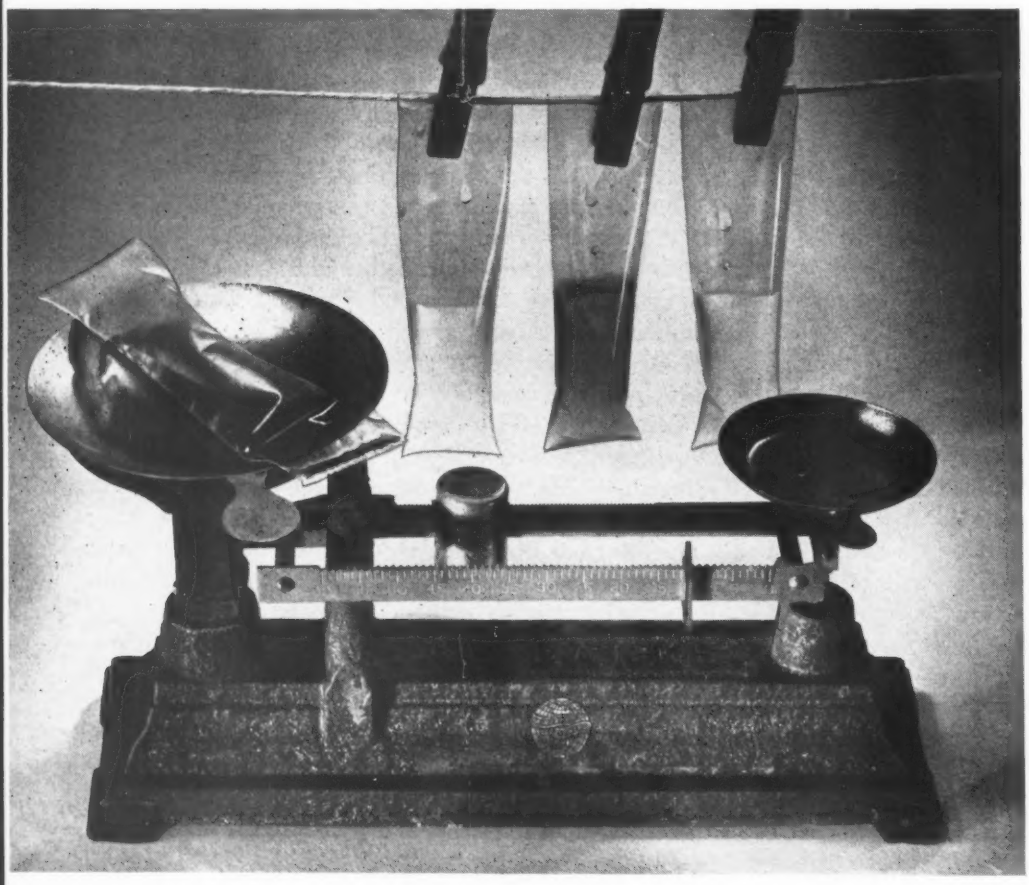
There has been a steadily increasing demand for polyethylene for the packaging of chemicals and cosmetics. Liquids as well as solids are packaged in polyethylene, which is now supplied as blow-molded bottles, flat film or sheet, lay-flat seamless tubing and in other forms. As in the case of most new materials, there is need for basic information on some of the properties of polyethylene. While there are data available on its resistance to chemicals, it is particularly difficult to find information on the permeability of liquids through polyethylene with the exception of the considerable number of reports on water-vapor transmission.

There were two objects in this work. The first was to develop a very simple test which would give rate of transmission of liquids through polyethylene film. This test was to be considered as a preliminary packaging test. It was to supply data accurate enough only to indicate whether it would be worth while to proceed with packaging tests, which are often carried out under actual packaging conditions and which are apt to be both costly and long. The second object was to determine a method, if possible, for estimating the actual rate of transfer of liquids through polyethylene film from physical or other available data.

A very simple test for determining the rate of transfer of liquids through polyethylene film was developed and used. Little laboratory technique and a minimum of apparatus is necessary. Permeability tests were run on 48 different liquids and results are given in Tables I and II.

An empirical method of predicting the approximate transmission rates of liquids containing only hydrogen, oxygen and carbon was found. Liquids containing halogens or nitrogen are transmitted considerably faster than predicted and the method of calcula-

* Technical Sales, Plax Corp., Hartford, Conn.



APPROXIMATE VALUES of permeability of film to various liquids can be obtained by using merely the simplest of weighing equipment to establish the loss of weight from water-filled bags after periods of exposure at room conditions. Heat-sealed tubes shown are the type used by the author in his experiments.

tion is not applicable for these particular classes of liquids. Testing was done on the effect of liquid and vapor phases and temperature.

Method of testing

Six-inch lengths of lay-flat seamless polyethylene tubing (extruded from PM-1 material) of about 1.7-in. lay-flat diameter and 0.0017-in. thickness were used as test bags. Thirty cc. of liquid was heat sealed in the bags, using a 6-in. Dobeckmun hand heat sealer. The average wall thickness of the tubing was measured with a micrometer and the width and length measured with a steel ruler. Bags were weighed at various intervals, either to ±0.005 gm. on the analytical balance or to ±0.3 gm. on the rough laboratory balance. Lengths of tests varied from a few hours to several weeks. Bags were placed flat on a suspended wire screen during the actual tests. Temperature was not held constant. Room temperature was about 22 ± 4 deg. C.

Calculations

The following formula was used to calculate the permeability, *P:*

$$P = w \times \frac{24}{h} \times \frac{100}{A} \times l = \frac{2400\ wl}{hA}$$

P = permeability in gms./24 hr./100 sq. in./0.001 in. film thickness
w = loss of weight of liquid in gms.
h = time in hours for weight loss w.
A = area of bag in sq. in.
l = wall thickness of bag in thousandths of an inch

Loss of weight was plotted vs. time and the average rate of loss was obtained from the slope of the curve.

Table I gives the permeability values for 36 polar materials.

It will be noted that a considerable variety of liquids was tested, including water, organic acids, esters, ethers, ketones, alcohols, halogenated materials, liquids of both aliphatic and aromatic types, and nitrates and other nitrogen-containing materials. The range of permeability values is wide, extending from 0.02 to 720.0, and even higher permeability values are found in the non-polar liquids.

It is believed that values could be reproduced to ±5% to 10% using this particular test with constant temperature conditions. This accuracy could probably not be maintained for liquids which are transferred at rates of more than 100 gms./24 hrs./100 sq. in./0.001 in. However, inasmuch as these tests were run under uncontrolled laboratory temperature conditions, some of the listed values may vary by as much as 25% or even 50% in a few cases.

Table II lists permeability values for 12 non-polar liquids.

In general it can be observed that polyethylene is a poor barrier for these liquids. Two of the 12 liquids might be considered as having medium transfer rates, while the other 10 have rapid or very rapid rates. In a strict sense, several of these liquids, including toluene and xylene (commercial mixture), are not truly non-polar. Reasons for considering them as non-polars are given under the theoretical considerations.

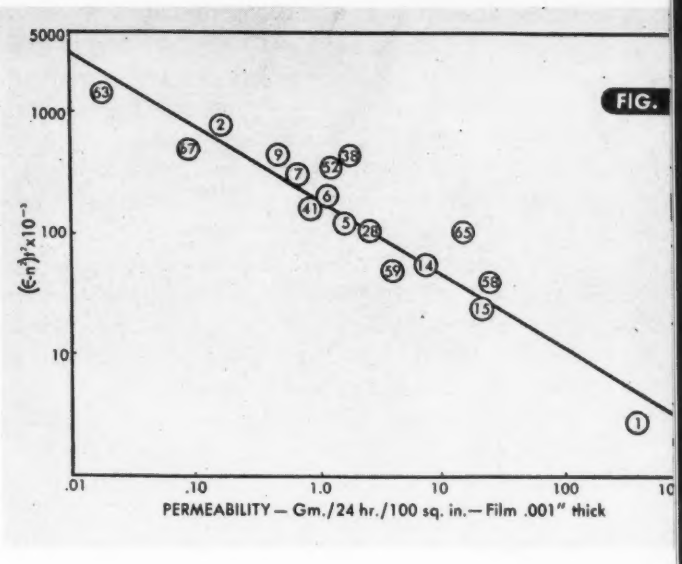


FIG.

Theoretical considerations

While an empirical method of predicting transmission rates of liquids through polyethylene film has been developed, it must be emphasized that the calculated values are only rough approximations. However, it is believed that even such approximations are useful when it is remembered that the permeability values range over six decades. Therefore, even if calculated values could classify polyethylene only as an excellent, or a good, or a fair, or a poor barrier for a given liquid, they would be of help in considering polyethylene for specific packaging applications.

The simplest possible conception of the process of permeation would be to consider the film as a sieve-like membrane, having very small holes through which the permeating molecules could pass. Such a theory would not explain the experimental findings. However, the conception of permeation resulting from activated diffusion as proposed by Barrer (1)[1] does seem to agree to a large extent with the experimental data. This method of transfer may be considered to be composed of three separate steps. The permeating molecules must first be dissolved in the film; then a diffusion of the molecules from the region of high concentration to the region of low concentration in the film must take place; and lastly, evaporation at the outside surface must occur. Presumably the step which takes place the slowest would be the limiting factor.

It has been found (2) that the presence of polar groups reduces the solubility of a non-polar gas in an organic liquid and, conversely, that polar gas molecules will dissolve more readily in a liquid with polar molecules than in a liquid without polar molecules. It was therefore believed that non-polar polyethylene, considered as a very high molecular weight organic liquid,

[1] Figures in parentheses refer to "References" appended.

would be a better barrier for polar liquids than for non-polar liquids. Furthermore, if some physical or other properties which indicates polarity of the permeating material could be found, it was thought it might give an indication of permeability. It was found by van Amerongen (3) that Perbunan rubber, which has strong polar groups, has a reduced solvent power for non-polar gases and an increased solvent power on polar gases while, on the other hand, the essentially non-polar Oppanol has very low solvent power for the polar gases. Using the activated diffusion theory of permeation, it is assumed that if a material is not dissolved readily in polyethylene, it would not permeate it easily.

Actually, the term $(\epsilon - n^2)$ has been used to indicate polarity, where ϵ is the dielectric constant and n is the index of refraction. Maxwell (4) deduced the relationship $\epsilon = n^2$ from the electro-magnetic theory of light. This formula holds true for non-polar liquids which have low dielectric constants. For most liquids the term n^2 is less than 3. However, the dielectric constant of liquids having polar groups will vary, for the most part, from 4 to about 80. Water, for instance, has $\epsilon = 81$. Therefore, the difference between ϵ and n^2 is some indication of polarity. This measure of polarity is discussed in some detail by Waters (5). Non-polar liquids were considered to be those having $(\epsilon - n^2)$ equaling less than one. Thus, for this purpose, toluene would be considered as non-polar. Inasmuch as ϵ varies (6) considerably with both frequency and temperature, ϵ obtained at low frequencies and 20 deg. C. was used wherever possible.

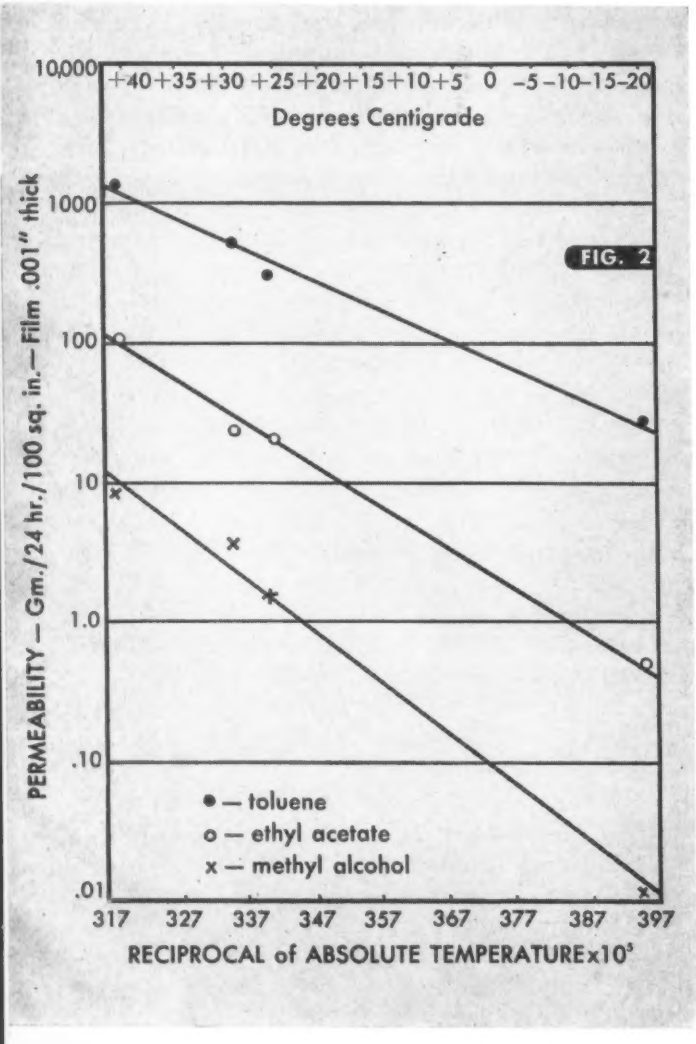


TABLE I—PERMEABILITY VALUES OF POLAR MATERIALS

Sample #	*Material*	*Permeability gms./24 hrs./100 sq. in. for film 0.001 in. thick (room temperature)*
63	Ethylene glycol	0.02
33	2-Nitro 1-butanol	0.05
67	Dimethyl phthalate	0.09
2	Water	0.16
61	Hydrogen peroxide 30%	0.33
9	Formic acid 85%	0.48
25	Old Spice Cologne	0.60
7	*n*-Octyl alcohol	0.68
70	Phenol 94%	0.70
42	Ethylene chlorohydrin	0.73
41	Allyl alcohol	0.95
78	Auvergne Cologne	1.1
6	*n*-Butyl alcohol	1.2
52	Acetic anhydride	1.3
5	Methyl alcohol	1.6
38	Ethyl aceto acetate	1.8
27	Nitroethane	2.0
10	Nitromethane	2.1
11	Aniline	2.4
30	Nitrobenzene	2.6
28	Glacial acetic acid	2.6
14	Acetone	7.6
65	Methyl ethyl ketone	15
15	Ethyl acetate	21
58	Propionaldehyde	25
39	Dimethyl aniline	27
51	Pyridine	29
40	Acetyl chloride	38
60	Mono chloro benzene	38
59	Butyl acetate	40
31	*o*-Dichloro benzene	59
16	Ethylene chloride	79
4	Dibutyl ether	200
1	Diethyl ether	410
29	Ethyl bromide	680
24	Chloroform	720

However, $\epsilon - n^2$ gives only an indication of transmission rates and leaves much data unexplained. It was also thought that molecule size would have some bearing on permeability. It would seem logical that a small molecule could pass through openings in the barrier film more easily than a large bulky molecule. Also larger molecules usually have higher boiling points and evaporate with less ease. In this instance the boiling point is used as an indication of molecule size. It is at least qualitatively true that as the boiling point increases, molecule size also increases.

It was found empirically that if log $(\epsilon - n^2)t^2$ was plotted vs. log P, essentially a straight line was obtained. t is boiling point in deg. C. Such a plot can

then be used to find approximate values of P simply by determining $(\epsilon - n^2)l^2$ for a given liquid and selecting P from the curve.

Absolute temperature can also be used, but it must be raised to the fourth power and calculated values are a little less accurate.

Fig. 1 gives the plot log $(\epsilon - n^2)l^2 \times 10^{-3}$ vs. log P. Only liquids containing carbon, hydrogen and oxygen are included. This empirical method of estimating P cannot be used for halogen-containing or nitrogen-containing liquids. In most instances, liquids in these two groups are transferred at a rate considerably faster than would be expected. Non-polar liquids are not included on this curve, inasmuch as $\epsilon - n^2$ is theoretically equal to zero. An empirical formula could be derived using the curve in Fig. 1. The type formula $x = ay^b$ would apply where a and b are constants. The final formula would take the form $P = a[(\epsilon - n^2)l^2]^b$ and b would have a negative value. Actual values for a and b have not been calculated because the character of the experiment was not sufficiently precise to reduce the data to a mathematical equation.

Fig. 1 indicates that increased polarity or a higher boiling point in the permeating material tends to decrease the rate of transmission.

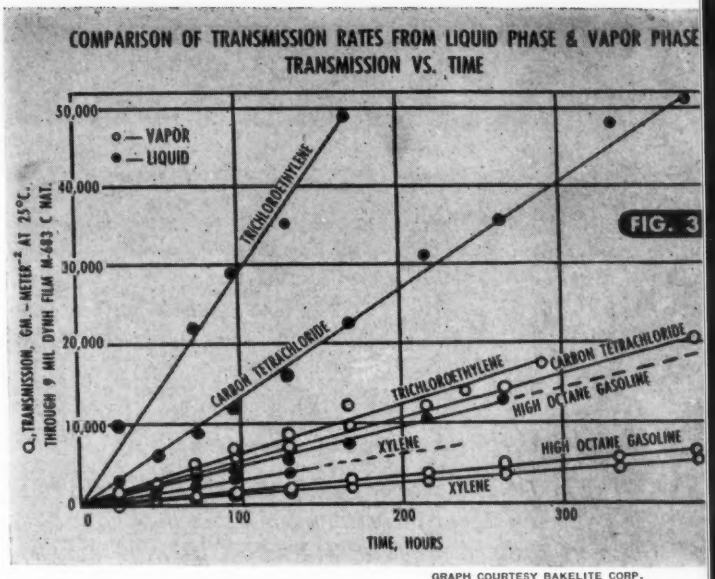
This method of estimating P can be used only for those materials which are liquids at room temperature under normal pressure. Liquids having boiling points ranging from 35 to 282 deg. C. are plotted in Fig. 1.

Fig. 2 is a plot of reciprocal of absolute temperature vs. P. Tests were run on toluene, ethyl acetate and methyl alcohol. The rate of transmission is roughly doubled for every 7 to 10 deg. C. rise in temperature. Temperature has more effect on slow transmission materials than on fast ones. This agrees with the findings of Doty (7), who measured the transmission rate of water vapor through various films and found that temperature has the greatest effect on the best barriers. Myers and Phillips (8) found that the rate of transmission roughly doubled for 10 to 14 deg. C. rise in temperature. However, they were working with liquids having values of P in the same range or somewhat greater than toluene. In Fig. 2, P approximately doubles for a 10 deg. C. rise for toluene.

TABLE II—PERMEABILITY VALUES OF NON-POLAR MATERIALS

Sample #	*Material*	*Permeability gms./24 hrs./100 sq. in. for film 0.001 in. thick (room temperature)*	ϵ	n^2
8	Kerosene	18	2.0*	2.0*
62	Dioxane	20	2.26	2.03
68	Turpentine	61	2.23	2.15
66	Styrene	240	2.527	2.38
18	Xylene (commercial mixture)	260	2.4†	2.25
17	Toluene	320	2.387	2.24
55	Gasoline (containing tetraethyl lead)	440	2.0*	2.02
13	Petroleum ether	470	1.84*	1.84*
12	Benzene	490	2.282	2.21
23	Carbon tetrachloride	600	2.30	2.20
43	Liquid bromine	2100	3.18	2.86
44	Carbon disulfide	5200	2.62	2.64

* Estimated.
† Average.
ϵ = dielectric constant; n = index of refraction.



GRAPH COURTESY BAKELITE CORP.

Fig. 3 shows a comparison of transmission rates from the liquid phase and the vapor phase. Values of P were approximately two to four times as great for the liquid as for the vapor phase, according to Myers and Phillips (8).

Further work

The work which has been done here cannot be considered to be especially accurate due to the nature of the tests and the conditions under which the tests were run. It would seem that the problem warrants considerable further work. While some insight into the whole matter has been gained, there are many avenues of investigation which have not been explored.

More accurate permeability values should be obtained and, if possible, the method of testing should be of the type where P is calculated from the solubility coefficient and the diffusion constant. Solubility has not been investigated in these experiments and if the activated diffusion theory is to be applied, certainly solubility of the permeating material must be considered.

Insufficient tests have been run on mixtures to understand their transmission. They are of importance, as it is usually mixtures which are encountered in actual packaging problems.

It is believed at this time that the effect of swelling of the polyethylene film caused by the permeating liquid is of importance. Per cent volume changes caused by swelling at 60 deg. C. as (*Continued on page 240*)

Questions and Answers

This consultation service on packaging subjects is at your command. Simply address your questions to Technical Editor, Modern Packaging, 122 East 42nd St., New York 17, N. Y. Your name or other identification will not appear with any published answer.

Protective packaging for tea

QUESTION: I am engaged in the sale of tea from this colony (East Africa) and am interested in the proper container for this item in sizes to hold 50, 100, 200 and 500 grams. The packages must be odorless to prevent spoiling the flavor of the tea after packaging.

ANSWER: An acceptable and widely used package for tea in this country consists of a printed folding paperboard carton with some type of glassine inner liner and perhaps a cellophane overwrap. Since your climate is semi-tropical, you will probably require a considerable degree of moisture protection.

It is suggested that you use a tuck-end type of printed folding carton or a set-up box, since you have several sizes and a limited volume for each size. The carton liner should be a bag made from laminated glassine using a waxy type of laminant. The bag can be closed after filling by a well compressed double fold. The carton can then be overwrapped with moistureproof heat-sealing cellophane for additional moisture protection and merchandising appearance.

If you use one of the better grades of paperboard, you will not have any problem with spoilage of the tea as a result of board odors. Also, the laminated glassine inner bag is very resistant to odor transmission and this will preserve the aromatic flavor of the tea.

Moisture-resistant packaging

QUESTION: We use a small folding carton with a waxed paper liner for a product which becomes sticky and gummy with too much moisture. We would like to increase the shelf life of the package without major changes in the appearance of the package or in our present packaging machinery.

ANSWER: You have given very little factual information on the specification of your waxed paper, the construction of the liner or the machines which you are now using. However, it would appear that your present liner is not well sealed and so does not give effective moisture protection.

If this is true, then the specifications of the waxed paper are not very important, since the moisture can get to the product without going through the waxed paper. Also, it will not be effective to use a highly moistureproof waxed paper unless the liner can be formed and closed to make a mechanically tight unit. To obtain a proper closure, you will have to modify the liner-forming machine to make heat-sealed seams and either a heat-sealed closure or a crimped double fold. When this is done, then a waxed paper having at least 5 lbs. per 1,000 sq. ft. of wax on the surface of each side will give a good level of moistureproofness. You can determine by laboratory tests just how effective each step or element is increasing the shelf life by using your present package as a control.

Labeled wraps for chocolates

QUESTION: We are manufacturers of chocolate (in France) and are interested in wrapping chocolate parcels of 150 to 500 grams using paper labels. We do not possess wrapping machines for those sizes of packages. At present we are closing these packages with sealing wax. This method is not very efficient, although it is very clean. We have tried many systems, including the use of a small brush or pencil dipped in glue, but they are not ideal. We have not yet found a glue that stiffens quickly enough and the parcels are often spoiled with a drop of glue. We would like your suggestions on how to solve our problem.

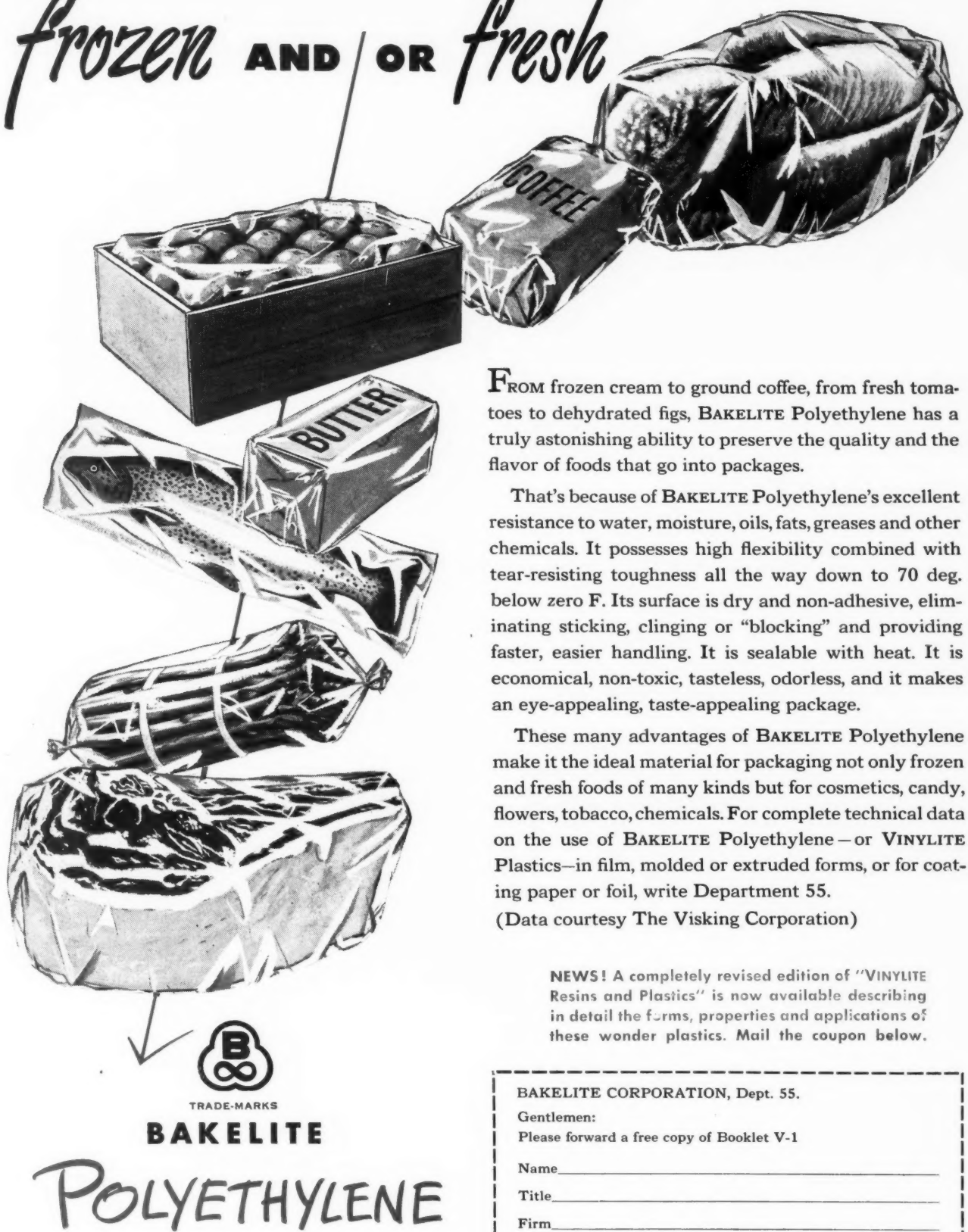
ANSWER: It is very difficult to apply glues and paste by hand to paper labels, then apply the wrap by hand and yet make a neat and attractive package.

There are machines in this country which will apply an edge strip of paste or glue to a single wrapper and discharge the wrapper to the operator for subsequent wrapping. These unit machines are small and efficient because they apply the right amount of adhesive at the proper areas. Also, such adhesive applicators are simple in construction, flexible as to size, easy to operate and low in cost.

After the adhesive has been applied to the wrapper, the chocolate bar should be quickly hand wrapped and then put through a pressure device to hold the overwrap in position while the adhesive sets so that the seal is strong enough to stand further handling.

Such a pressure mechanism can easily be built, using two slowly moving belts or a belt with brushes or similar means of holding the wrapper in place for the period of time required. Such a combination of simple machines will allow you to turn out neatly wrapped packages of chocolate of various sizes without complicated or expensive equipment.

FOR PACKAGING FOOD *frozen* AND / OR *fresh*



FROM frozen cream to ground coffee, from fresh tomatoes to dehydrated figs, BAKELITE Polyethylene has a truly astonishing ability to preserve the quality and the flavor of foods that go into packages.

That's because of BAKELITE Polyethylene's excellent resistance to water, moisture, oils, fats, greases and other chemicals. It possesses high flexibility combined with tear-resisting toughness all the way down to 70 deg. below zero F. Its surface is dry and non-adhesive, eliminating sticking, clinging or "blocking" and providing faster, easier handling. It is sealable with heat. It is economical, non-toxic, tasteless, odorless, and it makes an eye-appealing, taste-appealing package.

These many advantages of BAKELITE Polyethylene make it the ideal material for packaging not only frozen and fresh foods of many kinds but for cosmetics, candy, flowers, tobacco, chemicals. For complete technical data on the use of BAKELITE Polyethylene—or VINYLITE Plastics—in film, molded or extruded forms, or for coating paper or foil, write Department 55.
(Data courtesy The Visking Corporation)

NEWS! A completely revised edition of "VINYLITE Resins and Plastics" is now available describing in detail the forms, properties and applications of these wonder plastics. Mail the coupon below.

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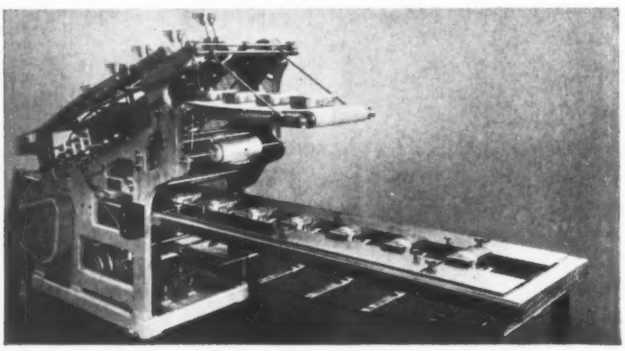
Equipment and Materials

CELLOPHANE WRAPPING MACHINE

Package Machinery Co., Springfield, Mass., will exhibit its new low-priced, all-purpose Model F wrapping machine in operation at the forthcoming Western Packaging Show. Us-



ing unprinted or continuous printed heat-sealing cellophane in rolls, it handles cartons, goods in open boats, U-boards, etc., in a wide range of sizes. It is said to be ideal for wrapping meats, fruits and vegetables with an approximate package size range from $3^3/_4$ to 16 in. in length, $2^1/_2$ to $7^1/_2$ in. in width, and $^3/_4$ to 6 in. in height up to 40 packages per minute, depending on the type of package and product wrapped.

AUTOMATICALLY PACKS FLUFFY PRODUCTS

Union Bag & Paper Corp., New York, has developed an automatic machine for weighing and filling such fluffy products as rock wool insulation, asbestos fibre, beet sugar pulp, etc., in paper bags. Now in use by a nationally known packer of rock wool insulation, for whom it was originally developed, the machine is said to save hundreds of thousands of dollars a year formerly lost in overweight. By controlled compression, it is saving up to 14% in the cost of the paper bags.

FORMS LOCK-TYPE TRAYS AND CARTONS

General Mills, Inc., Minneapolis, Minn., has added two new packaging machines developed by Frank D. Palmer, Inc., Chicago, to its line of industrial machinery. Illustrated is the Tray-Lock machine for automatically forming lock-type trays and cartons from flat, unglued blanks. This type of container, with an overwrap of transparent material, is widely used for baked goods, frozen meats and fish, fruits and vegetables, etc. The other machine automatically sets up open-top, double-wall trays or cartons from die-cut blanks.

HIGH-SPEED FLANGER

Lima-Hamilton Corp., Hamilton, Ohio, announces a fully automatic high-speed flanger for square or rectangular cans which die flanges both ends of the can simultaneously and is said to produce an even right-angle flange on corners and sides of the can without distorting the can body. The Model No. 406 has five flanging stations and is completely self contained with individual motor drive. The unit handles a maximum of 150 1-qt. cans per minute. A similar flanger, Model No. 304, is a three-station machine for $^1/_2$ gal., 1-gal. and 2-gal. cans.

TABLET COUNTING MACHINE

PerfeKtum Products Co., New York, is offering a tablet counting unit for counting such products as coated or compressed tablets, capsules (gelatin, two-piece, round or oval), perles, lozenges, saccharin, etc. The new unit, known as the PerfeKtum TabCount, is operated entirely by electricity and is said to be mechanically perfected to eliminate overcounts.

SCALE FOR PRE-PACKAGING PRODUCE

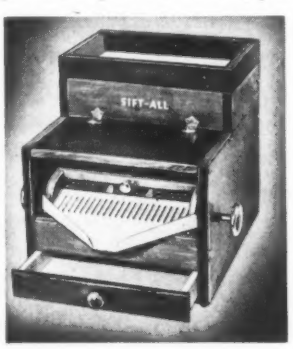
Exact Weight Scale Co., Columbus, Ohio, is offering a fruit and vegetable bagging scale built expressly for accurately weighing and handling 5-, 10- and 15-lb. consumer bags of potatoes, onions, citrus fruits, etc. This Model 708-P features a special commodity holder, tilted and equipped with guard for holding bags and a grilled platform having rounded edges to prevent tearing of bags during weighing and handling.

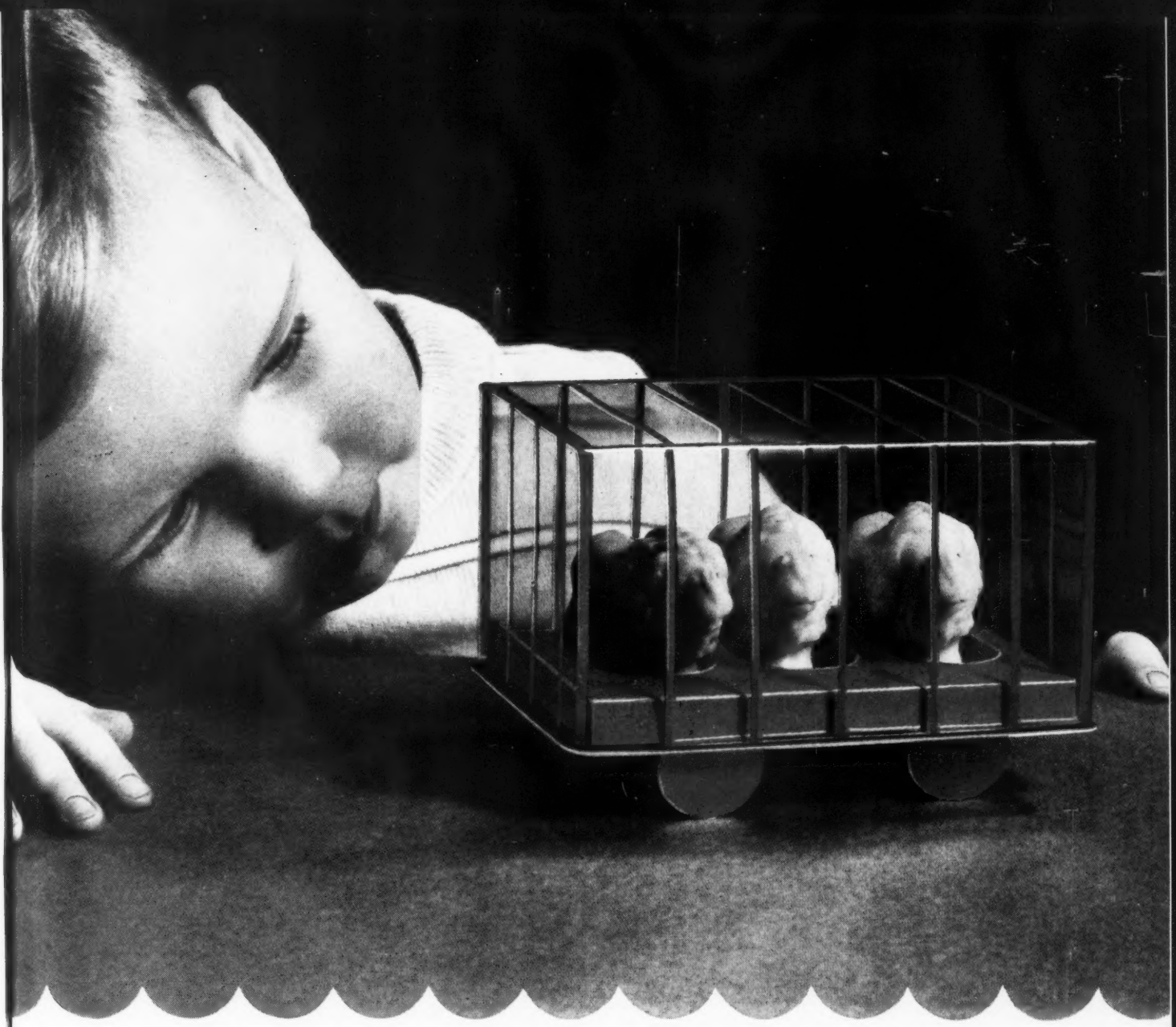
NEW STRAPPING TOOLS

Acme Steel Co., Chicago, recently announced the availability of two new tools—a stretcher and sealer—for bundling and tying units of small diameter. It is reported they are extremely successful in applying a tight strap around packages as small as 1 in. in diameter.

SIFTS, CLEANS AND GRADES TABLETS

Winthrop Ball & Co., Los Angeles, announces the development of a machine for cleaning, sifting, grading and sorting both coated and compressed tablets. The device is said to remove automatically all waste materials such as broken pieces, imperfect tablets, powders and capped tablets. When used directly beneath a tablet-making machine, it eliminates broken pieces and powders in one operation. Its normal average cleaning time for such products as aspirin is approximately 2,000 tablets per minute, it is claimed. The standard capacity is $1^1/_2$ gal., but the hopper may be increased to $2^1/_2$, $3^1/_2$ or $4^1/_2$ gal. These increased capacity sections are





Zoo with a view

This soap menagerie—like many another novelty product—must be seen to be appreciated. And it is . . . packaged in Kodapak Sheet.

For Kodapak Sheet is a sparkling, optically clear plastic material. It makes up into inviting individual display cases that permit buyers to view every detail of the product. At the same time it prevents the marks that cause markdowns . . . protects merchandise from fingering, dust, store wear.

Kodapak Sheet is supplied in two basic forms: Kodapak I, cellulose acetate, in gauges from No. 88 (0.00088″) to 20 thousandths (0.020″); Kodapak II, cellulose acetate butyrate, in gauges from No. 90 (0.00090″) to No. 200 (0.00200″).

The extensive facilities of the Kodapak Demonstration Laboratory in Rochester are available to show fabrication possibilities and practical uses of Kodapak Sheet. Write for an appointment.

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Eastman Kodak Company, Rochester 4, N. Y.

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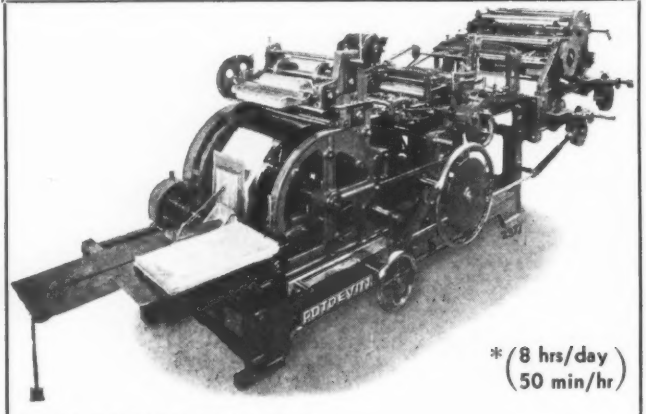

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Equipment and Materials
(Continued)

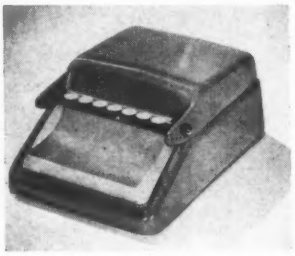
removable, due to their height, to permit use directly beneath tablet-making equipment. Screening plates are drilled in accordance with circumference of product and this, it is said, assures perfect cleaning performance.

COUNTING AND WEIGHING SCALES

National Scale Co., Springfield, Mass., has announced a newly designed counting and weighing scale which is moved to the objects to be weighed or counted, thus eliminating the time consumed in transporting goods to a central scale installation. Mounted on wheels and 4-ft.-high legs, the scale, operated by one man, is rolled over boxes, barrels, drums or other items to be weighed. Standard "grabs" fastened on.

DISPENSER FOR SELF-ADHESIVE LABELS

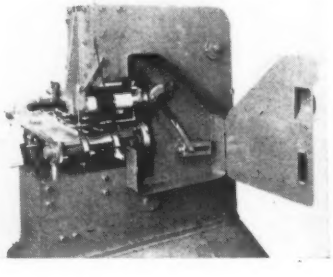
A semi-automatic label dispenser designed for handling the self-adhesive labels it manufactures, has been announced by the Archer Label Co., Los Angeles. By a one-hand motion, the operator automatically removes a full 4-in.-wide row of contact labels from their glassine backing sheet and presents them ready for instant application without moistening. The machine is designed for large-quantity industrial use. Stock and special sizes and shapes are printed by the company to the customer's order and are mounted on glassine rolls $4^1/_4$ in. wide, 1,000 to 10,000, depending upon the size of the label.



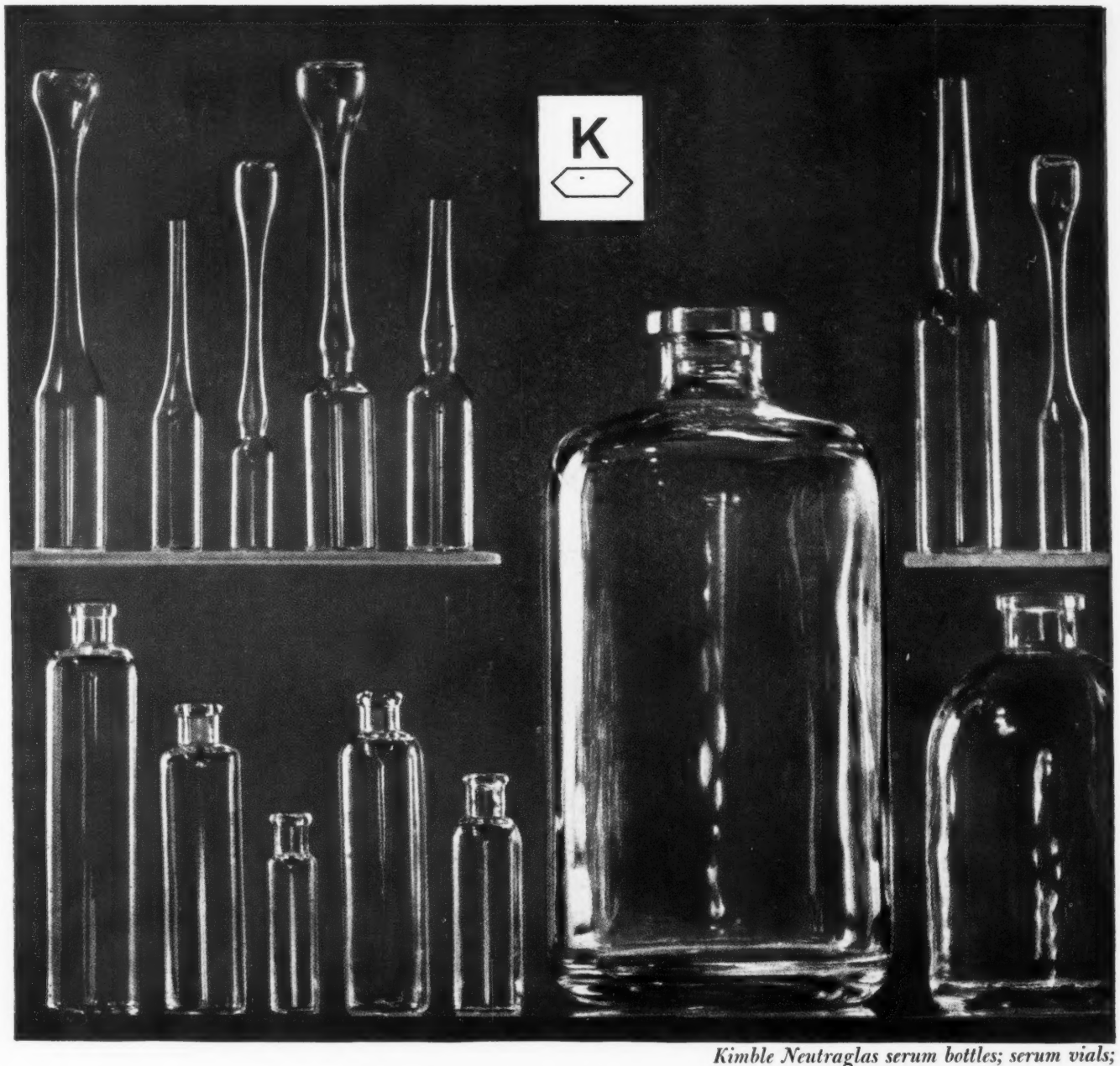
PLASTIC SHEET FOR LOW-COST FABRICATION

Full production of polystyrene sheet stock, from The Dow Chemical Co.'s Styron, developed for low-cost transparent containers, has been announced by the Plastics Division of the Willson Magazine Camera Co., Philadelphia. The sheet is made in thicknesses of $^1/_{16}$, $^3/_{32}$, $^1/_8$ and $^3/_{16}$ in. and is available in clear and opaque types in a wide range of colors.

ROLL LEAF STAMPING PRESS



Peerless Roll Leaf Co., Inc., Union City, N. J., has introduced a new type of roll leaf stamping press specially designed for marking articles of various sizes and shapes at speeds ranging from 10 to 60 impres-



Kimble Neutraglas serum bottles; serum vials; trimmed stem and "Tuf-Top" ampuls

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• Kimble is the *only* glass manufacturer from whom you can get serum bottles, serum vials and a complete line of trimmed stem and "Tuf-Top" ampuls in Neutraglas.

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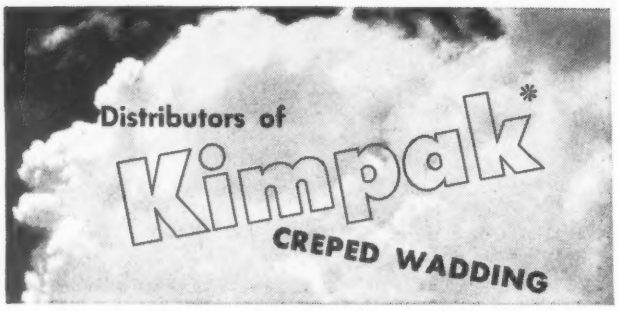


ALABAMA
Graham Paper Co.....Birmingham

ARIZONA
Blake, Moffitt & Towne....Phoenix, Tucson
Graham Paper Co.....Phoenix

CALIFORNIA
Blake, Moffitt & Towne.....Fresno, Oakland, Sacramento, San Francisco, Santa Rosa, San Jose, Stockton
Zellerbach Paper Co.....Fresno, Los Angeles, Oakland, Sacramento, San Diego, San Francisco, San Jose, Stockton

COLORADO
Carpenter Paper Co..Denver, Pueblo
Graham Paper Co.....Denver

CONNECTICUT
Charles F. Hubbs & Co...Bridgeport
The Rourke-Eno Paper Co..Hartford

GEORGIA
Graham Paper Co.....Atlanta

IDAHO
Blake, Moffitt & Towne.....Boise

ILLINOIS
Abana Products.....Chicago
Bradner Smith & Co.....Chicago
Graham Paper Co.....Chicago
Newhouse Paper Co.....Moline
S. V. Cain, Inc.....Peoria

INDIANA
Crescent Paper Co.....Indianapolis

IOWA
Carpenter Paper Co.....Des Moines, Sioux City

KANSAS
Carpenter Paper Co.....Topeka
Graham Paper Co.....Wichita

KENTUCKY
Graham Paper Co.....Louisville

LOUISIANA
Graham Paper Co.....New Orleans

MARYLAND
Hubbs & Corning Co.....Baltimore

MASSACHUSETTS
Carter Rice & Co. Corp.....Boston
Charles A. Esty Paper Company.....Worcester
Bulkley, Dunton & Co., Inc. .....Springfield

MICHIGAN
The Whitaker Paper Co.....Detroit
Beecher, Peck & Lewis.....Flint
Graham Paper Co.....Grand Rapids
Crown Paper & Bag Co...Jackson
Bermingham & Prosser Company.....Kalamazoo
The Weissinger Paper Company.....Lansing
Reid Paper Co.....Saginaw

MINNESOTA
Graham Paper Co.....Minneapolis
Carpenter Paper Co....Minneapolis St. Paul

MISSOURI
Carpenter Paper Co.....Kansas City
Graham Paper Co...N. Kansas City, St. Louis

NEBRASKA
Carpenter Paper Co..Grand Island, Lincoln, Omaha

NEW YORK
Hubbs & Howe Co.....Buffalo
Hubbs Paper Co., Inc.....Hollis, L.I.
Charles F. Hubbs & Company.....New York
Herbert A. Post, Inc.....New York
The Alling & Cory Co.....Rochester
J. & F. B. Garrett Co.....Syracuse

NORTH CAROLINA
Henley Paper Co.....High Point

OHIO
The Chatfield Paper Corp.....Cincinnati
The Whitaker Paper Co....Cincinnati
Hubbs & Howe Co.....Cleveland
The Scioto Paper Co.....Columbus
The Ohio & Michigan Paper Company.....Toledo

OKLAHOMA
Carpenter Paper Co. of Okla.....Oklahoma City
Graham Paper Co....Oklahoma City

OREGON
Blake, Moffitt & Towne....Portland
Zellerbach Paper Co.....Portland

PENNSYLVANIA
Hubbs & Howe Co.....Erie
D. L. Ward Co.....Philadelphia
The Chatfield & Woods Co. of Pa.....Pittsburgh

RHODE ISLAND
Carter, Rice & Co. Corp..Providence

TENNESSEE
Graham Paper Co.....Memphis, Chattanooga, Knoxville, Nashville

TEXAS
Carpenter Paper Co.....Fort Worth, Austin, Harlingen, Lubbock, Dallas, San Antonio
Graham Paper Co.....Corpus Christi, Dallas, Houston, San Antonio

UTAH
Carpenter Paper Co. .....Salt Lake City
Zellerbach Paper Co .....Salt Lake City

WASHINGTON
Blake, Moffitt & Towne.....Seattle, Spokane, Tacoma
Zellerbach Paper Co .....Seattle, Spokane
Spokane Paper & Stationery Company.....Spokane

WISCONSIN
Wisconsin Paper & Products Co.....Milwaukee
Sawyer Paper Co.....Neenah
Service Paper Co.....Racine

CANADA
F. F. Barber Machinery Company, Ltd....Toronto, Ontario

HAWAII
The Honolulu Paper Co. Ltd..... Honolulu, T. H.

*T. M. REG. U. S. PAT. OFF.

KIMBERLY-CLARK CORPORATION, Neenah, Wisconsin

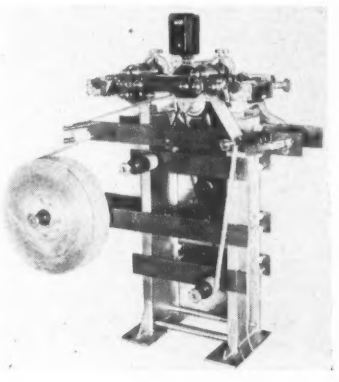
122 E. 42nd. St., New York 17 • 8 S. Michigan Ave., Chicago 3
155 Sansome St., San Francisco 4 • 22 Marietta St., Atlanta 3, Ga.

Equipment and Materials
(Continued)

sions per minute. The Model AH illustrated is said to assure uniform stamping results where the requirements are unusually severe as to speed, pressure and length of dwell. The stamping pressure is regulated by a hand wheel at the rear of the press, while a dial records the degree of pressure adjustment so that the same set-up can be duplicated.

TWO-COLOR PRINTER FOR ROLL TUBING

Frostad Engineering Co., Milwaukee, Wis., announces another model in its line of narrow web roll printers which is especially adaptable for aniline printing on polyethylene tubing and many other types of materials that can be fed from a roll. The 6-in.-wide printer may be obtained with one color unit for oil ink and another for aniline ink.



The printer has one frame, with side loading and unloading feature, collapsible mandrel for 3-in. cores or solid spindles as required; 12- or 24-in. unwind with dual rewind. The makers claim it has unique alignment and impression adjustments, with second color automatic registering device while running. All cylinders rotate on spindles anchored in the main frame, with steady-rest tie rods in front giving utmost rigidity. Auxiliary units can be incorpoated, such as the slitter illustrated, with one or more knives; $^1/_2$- to 12-in. perforating unit, sheeter, gravure unit. It may be equipped to register and spot print a preprinted traveling web in one or two colors.

HYDRAULIC ROLL-TO-ROLL ANILINE PRESS

The Wolverine Paper Converting Machinery Corp., Detroit, is offering a new hydraulic roll-to-roll aniline press which, it claims, is setting a new standard of printing on cellophane and foil. The hydraulic control operates the plate cylinders on all four-color units simultaneously and the free rotating ink-roller movement is accomplished as all four-color units are constantly set in motion by the action of a single motor. Register control is achieved by a helical drive of the impression cylinder which is said to register any job in the circumference while running, with side register accomplished by side movements of the plate cylinder itself. The company claims that tests have proved that if, for example, the press is accelerated from 100 ft. of paper per minute to a sudden 1,200 ft. per minute, no change in register occurs; also that board up to 36 pt. can be printed at a high rate of speed.

VINYL PRINTING INKS

American Resinous Chemicals Corp., Peabody, Mass., announces a complete line of vinyl printing inks including clear vehicles, thinners, light-fast, non-cracking pigment concentrates, delustre coats and dye solutions. All are available for various methods of application, including rotogravure and silk-screen printing, as well as hand topping, spanishing on film or vinyl-coated fabric.

Like riding on clouds. A drop leaf table goes to market, its fine finish protected with soft padding specified by Consolidated Freight Classification No. 17, (in supplement covering furniture packaging.) Table manufactured by Phoenix Chair Company, Sheboygan, Wisconsin. Padding—KIMPAK* creped wadding.

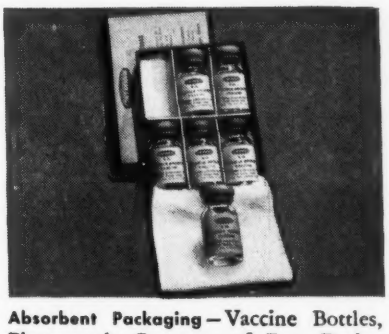
*Kimpak** Float Packaging

protects every product—from delicate vials to highly finished furniture

Greater shipping safety. Better-looking packages. Faster sales—higher profits! You're far ahead—*many* ways—when you protect your products with KIMPAK creped wadding. For no other interior cushioning material provides comparable protection with less bulk or shipping weight.

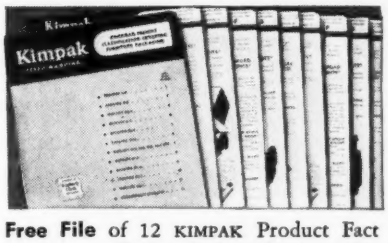
KIMPAK is non-abrasive, grit-free, pleasant to handle. It's flexible, resilient, shock absorbent. Withstands continuous vibration without impairing efficiency; is made either liquid repellent or liquid absorbent. Can absorb up to 16 times its own weight in water in 30 seconds.

Whatever your packaging problem, use cushiony KIMPAK. Available in a variety of types, thicknesses and backings to fit your particular needs. In fact, there is a specification of snow-white KIMPAK to meet every requirement of the Four Basic Methods of Interior Packaging: Surface Protection, Flotation Packaging, Absorbent Packaging and Blocking and Bracing.



Absorbent Packaging—Vaccine Bottles, Photograph Courtesy of Fort Dodge Laboratories, Inc.

Blocking and Bracing—Painting Kit, Photo Courtesy F. Weber Company



Free File of 12 KIMPAK Product Fact Sheets on Railroad Specifications for Furniture Packaging. Write us on your business letterhead. We will include free booklet on KIMPAK creped wadding.

A PRODUCT OF Kimberly Clark RESEARCH

Kimpak

REG. U.S. PAT. OFF. & FOREIGN COUNTRIES

*T. M. Reg. U. S. and Can. Pat. Off.

CREPED WADDING

KIMBERLY-CLARK CORPORATION
Creped Wadding Division, Neenah, Wis.

Plants and People

Richard C. Burton, assistant director of corrugated container sales for **Union Bag & Paper Corp.,** has been appointed director, succeeding **Walter T. Sheldon,** who has resigned. Mr. Burton will make his headquarters in the Woolworth Bldg., New York. **R. J. Harley** continues as district manager of the general container sales force.

R. C. Burton

Directors of the **West Virginia Pulp & Paper Co.** elected **Adam K. Luke** honorary chairman of the board. **Sidney M. Phelan, Jr.,** vice president in charge of sales, was named first vice president, a newly created office; **Joseph M. Wafer,** general manager of the company's industrial chemical sales division, was elected a vice president and director and **Lawrence Kavanagh,** assistant treasurer, was elected treasurer. The board also announced the acceptance of the resignation of **David Graham,** treasurer.

Lawrence H. Taylor has been elected vice president in charge of research for **Lippincott & Margulies, Inc.,** New York design firm.

Robert Beecher Briggs has been appointed chief engineer in charge of research, development and design engineering for **The Bloom System,** makers of market preparation machinery for fresh fruits and vegetables, Detroit, Mich.

The R. P. Scherer Corp. (until recently Gelatin Products Corp.) producers of gelatin capsules, tubes, etc., for the drug, food, cosmetic and other industries, announces the appointment of **Francis A. Wandell** as assistant to the president to take charge of the development of new foreign manufacturing facilities.

George S. Hastings, head of the company's patent department and a member of the board of directors, has been appointed a vice president of **American Machine & Foundry Co.** Mr. Hastings joined the firm in 1928 and became director of the patent department in 1940. Before his association with the company, he was with the U. S. Patent Office in Washington.

G. S. Hastings

Interchemical Corp. and **The Mutual Life Insurance Co.** of New York have entered into a sales-and-lease agreement providing for the Mutual Life to finance the construction of a one-story printing ink plant and research laboratory for Interchemical's International Printing Ink Division in Elizabeth, N. J.

Monsanto Chemical Co., Springfield, Mass., has announced the appointment of **G. Theodore Barks** as general superintendent of the company's new vinyl chloride production unit. **Salvadore P. Lio** will be operating superintendent and **Louis Schroeder** will serve as area supervisor.

Walter W. Lawrence has been named assistant manager of the Los Angeles Branch, **General Printing Ink Co., Sun Chemical Corp.**

The **Rutherford Machinery Division** of Sun Chemical Corp. has announced the appointment of **Michael Annick** as general sales manager.

R. R. Koch has been appointed manager of the **Chase Bag Co.'s** newly acquired Los Angeles plant. Mr. Koch had been with the company's Portland, Ore., branch.

The board of directors of **Economic Machinery Co.,** Worcester, Mass., builders of the World automatic and semi-automatic labelers, elected **Howard R. Stewart** as vice president, **Andrew J. B. Adams** as general manager and treasurer, and **Andrew J. Adams** as assistant general manager. Mr. Stewart, who has been in charge of the company's sales for a number of years, is a member of the board of directors of the Packaging Institute and vice president and a director of the Packaging Machinery Mfgrs. Institute.

H. R. Stewart

Sidney A. Maddocks has been named assistant production manager for **Union Paste Co.,** Hyde Park, Mass. **Howard H. Cutts,** formerly technical liaison director, succeeds him as field representative in Connecticut and Rhode Island.

The F. G. Findley Co., Milwaukee, maker of industrial adhesives, announces the following changes in its sales staff: **Ernst Hecker** is division sales manager of the Southern Division; **Don Thom** is division sales manager for the newly formed Eastern Division. **Eduard Hecker** has been transferred to the Milwaukee area. **Ken Andrew** has added Eastern Michigan to his Ohio territory, while **H. D. McDonald** now includes in his territory Southern Indiana as well as Kentucky and Tennessee. **Clarence Bickel** covers the Western Michigan and Northern Indiana area.

R. R. Huber has been appointed manager of the paperboard division of **Pioneer-Flintkote,** Los Angeles. Mr. Huber will direct operations of the Hollywood folding and set-up box, shipping container and boxboard plants.

Robert C. Hills has been appointed director of client service by **Van Doren, Nowland & Schladermundt,** industrial designers of New York and Philadelphia. Mr. Hills will make his headquarters at the firm's New York offices.

Clement J. Boncyk has been appointed to **Marathon Corp.'s** product development department as a packaging specialist to the cheese industry, replacing **Charles Wagner,** who has been transferred from technical service to plant operations. **Jerry Hermsen** has been named a

H&D BOXES

DEVELOPED for safety

DESIGNED for savings

Fine glassware finds a solution to its packaging problems in this H & D box—the original corrugated octagon "barrel" for bulk glassware shipments. Here, Package Engineering cuts packing material costs and reduces packing time. Color printing provides high advertising value, quick product identity and a quality impression. The box offers dependable protection from the manufacturer to the retailer. Consult the H & D Package Laboratory on ALL of your packaging problems.

HINDE & DAUCH

Authority on Packaging

EXECUTIVE OFFICES: 4804 ADAMS ST. • SANDUSKY, OHIO

FACTORIES IN:

BALTIMORE 13, MD. • BUFFALO 6, N. Y. • CHICAGO 32, ILLINOIS
CLEVELAND 2, OHIO • DETROIT 28, MICH. • GLOUCESTER, N. J.
HOBOKEN, N. J. • KANSAS CITY 19, KANSAS • LENOIR, N. C.
MONTREAL, QUEBEC • RICHMOND 12, VA. • ST. LOUIS 15, MO.
SANDUSKY, OHIO • TORONTO, ONTARIO • WATERTOWN, MASS.

H&D

WRAP-ADE.....
Continuous Sealer

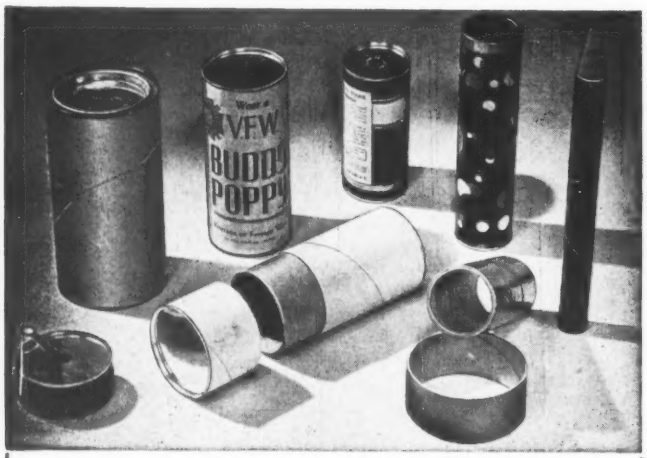
SEALS FAST
SEALS TIGHT

THE Wrap-Ade Continuous Sealer heat seals as many as 75 thermoplastic coated bags per minute. Each bag receives a uniform, moistureproof heat seal. The unit is ideal for all bags packed on a conveyor system which automatically carries the filled bag into the sealing rollers.

Nearly five feet long to provide sufficient heat-dwell for perfect sealing, the Wrap-Ade Continuous Sealer may easily be raised or lowered to allow for bags of various sizes. A device is available to give the bag an extra fold before it is sealed.

Write today for complete specifications.

WRAP-ADE MACHINE CO., INC.
778 Bergen Street Brooklyn 16, New York
Phone: NEvins 8-8052



ROUND TUBES AND PACKAGES
Available Now!

PACKARD offers spiral-wound round tubes and containers in all conceivable lengths and diameters—drum-shape, long, thin, flat. Sturdy and light-weight, PACKARD containers are perfect for any dry commodity—foods, drugs, chemicals, cosmetics, toys, novelties, insecticides, electrical products, shipping, textiles.

And these low-cost containers are available *immediately!* Whether you choose metal-end or paper-cap, plain or labelled—watch your product go in a PACKARD package.

PACKARD CONTAINER CORP.
5811 Park Avenue West New York, New Jersey
Phone Union 5-5818
New York City Telephone Lo 4-2348

Plants and People
(Continued)

food packaging sales representative in the Northern Wisconsin territory. **Robert R. Helf** has been assigned to the Virginia-North Carolina stock products territory to replace **James Fieweger**, who is now handling the Wisconsin territory.

A new factory and office building at Moberly, Mo., has just been completed by the **A-B-C Packaging Machine Corp.** With the completion of this building, all operations of the company have been transferred from Quincy, Ill., to Moberly.

A new sales office headed by **Neely J. Leake** has been established in Cleveland by **Bemis Bro. Bag Co.,** St. Louis, Mo. Mr. Leake is assisted by **Robert C. Thomas.**

The Bemis multiwall paper bag plant at St. Helens, Ore., which was closed during recent floods, will not be reopened because of flood damage to building and equipment. This plant was scheduled to suspend operations as soon as the new Bemis multiwall plant at Vancouver, Wash., was completed. Instead of reopening the St. Helens plant, Bemis will expedite completion of the Vancouver plant, which is expected to be in operation some time this month. **C. W. Akin,** formerly with the St. Helens plant, has been transferred to the St. Louis general sales offices.

Reuben H. Brown, manager of the Bemis New Orleans plant, will soon retire after 48 years with the company. He will remain, however, as special representative.

Sylvania Division, American Viscose Corp., announces the appointment of **Charles S. Thomsen Agencies** of Toronto, Canada, and **King & Anderson** of San Francisco, as agents for the sale of Sylvania cellulose neckband closures. Thomsen will handle sales in Canada; King & Anderson, in California, Washington and Oregon.

Ken Dike has been appointed assistant sales manager for **Stocker Mfg. Co.,** Netcong, N. J. He will have direct charge of all Stocker distribution and will make his headquarters at the company's New York sales offices.

Williams Colorprint, Inc., is a newly organized company offering industry high fidelity photo-offset lithography from color photographs. **Farrell E. Williams** is president of the new firm, whose plant is located at Columbus, Ga. The New York sales office at 381 Fourth Ave., is under the direction of **Arthur T. Dobbs.**

G. Lamont Bidwell has been elected to the board of directors of **Riegel Paper Corp.,** to succeed his father, **George L. Bidwell,** who resigned after serving on the board for 34 years. G. Lamont Bidwell joined the company in 1930 and is manager of Riegel's Milford, N. J., plant.

Kimberly-Clark Corp., Neenah, Wis., manufacturers of Kimpak creped wadding, was host to the Wisconsin Chap-

What's your sales and profit I.Q. ?

Which type of sales do glass containers stimulate?

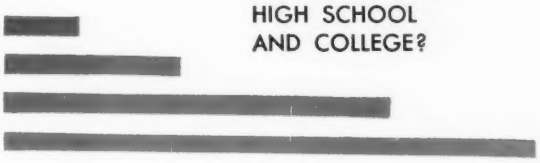
☐ IMPULSE ☐ PLANNED

ANSWER:

Both! Many people *plan* to purchase products in glass because of their strong preference for this container. But 45.5% of all processed foods are bought on *impulse*. And glass has a great advantage in creating such unplanned purchases because the goodness of the product is on full display at all times.

Here are four graphs showing the difference in strength of housewife demand to "see before she buys," depending on her education. Can you correctly label each graph with—

NO SCHOOLING,
GRADE SCHOOL,
HIGH SCHOOL
AND COLLEGE?



ANSWER:

You're right if you used exactly the order listed! Your best customers, your customers who *influence others*, are leading the swing to glass.

Can you number these advantages customers feel about glass containers, in their order of importance?

☐ "THEY'RE MORE SANITARY"
☐ "I SEE WHAT I'M GETTING"
☐ "HANDY FOR STORAGE"

ANSWER:

National consumer survey of packaging preferences reports these three major advantages of glass containers rank 1, 2, 3, as listed above. Other opinions listed by consumers are: "products look more attractive; glass preserves food better, longer; protects flavor; easier to open."

Do you know in which of these national publications Duraglas Container advertising is selling your products in glass?

☐ SATURDAY EVENING POST ☐ LADIES' HOME JOURNAL ☐ AMERICAN WEEKLY

☐ GOOD HOUSEKEEPING ☐ McCALL'S ☐ PARENTS' ☐ SUNSET

ANSWER:

Duraglas container campaigns are hard at work for you in *all* the above publications, selling your products in glass. Over ½ billion reader-impressions this year!

HERE'S A CURRENT ADVERTISEMENT SPOTLIGHTING FRUIT COCKTAIL IN DURAGLAS CONTAINERS

SCORING

Three or four right—There's *nothing* wrong with *your* glass-pack sales and profit I. Q.

Two right—You're in the top third of your class. Make a higher mark in sales and profit by taking full advantage of the power of glass packaging to build your sales.

One or none right—Don't flunk out of the profit picture. Pack in glass! Give customers a chance to buy your food the way they want it—in glass!

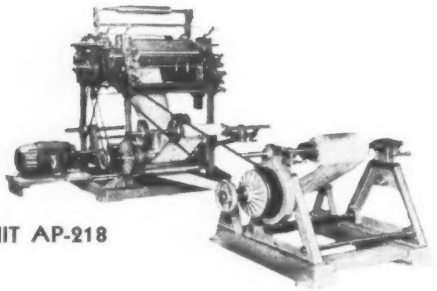
Duraglas TRADE MARK REG. U.S. PAT. OFF.

CONTAINERS SELL ON SIGHT

OWENS-ILLINOIS GLASS COMPANY
TOLEDO 1, OHIO • BRANCHES IN PRINCIPAL CITIES

MANHASSET

PRINTING & REWIND UNIT



UNIT AP-218

A "high speed" two color press used as a roll press in conjunction with rewinder.

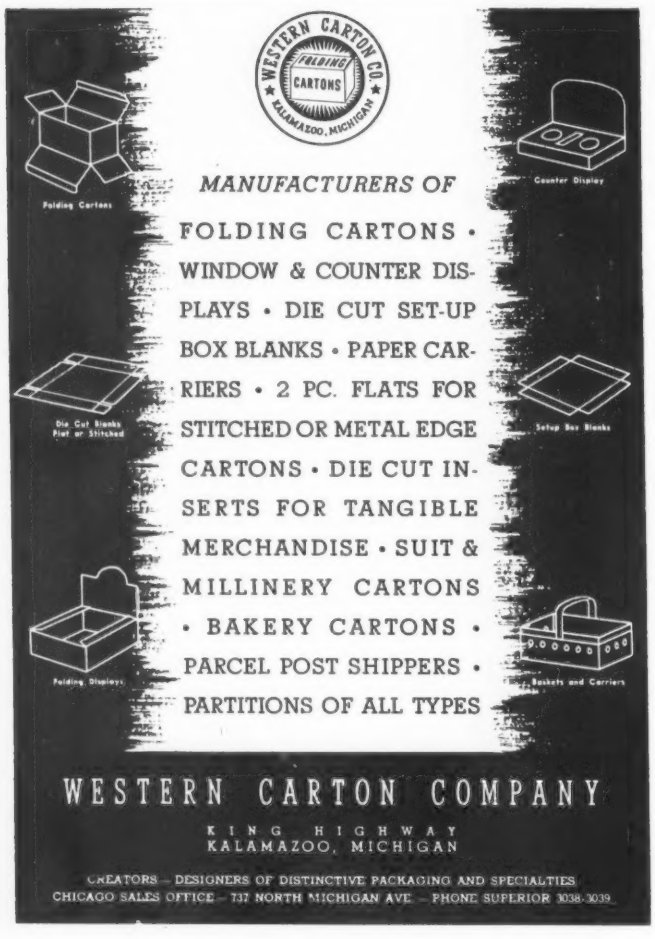
Can be used for printing preprinting rolls for further processing.

Made in various widths and repeats.

MANHASSET MACHINE CO.

255 EAST 2ND STREET — P. O. BOX 231

MINEOLA, N. Y.


WESTERN CARTON CO
FOLDING CARTONS
KALAMAZOO, MICHIGAN
Folding Cartons
Counter Display
Die Cut Blanks Flat or Stitched
Setup Box Blanks
Folding Displays
Baskets and Carriers
MANUFACTURERS OF
FOLDING CARTONS • WINDOW & COUNTER DISPLAYS • DIE CUT SET-UP BOX BLANKS • PAPER CARRIERS • 2 PC. FLATS FOR STITCHED OR METAL EDGE CARTONS • DIE CUT INSERTS FOR TANGIBLE MERCHANDISE • SUIT & MILLINERY CARTONS • BAKERY CARTONS • PARCEL POST SHIPPERS • PARTITIONS OF ALL TYPES
WESTERN CARTON COMPANY
KING HIGHWAY
KALAMAZOO, MICHIGAN
CREATORS — DESIGNERS OF DISTINCTIVE PACKAGING AND SPECIALTIES
CHICAGO SALES OFFICE — 737 NORTH MICHIGAN AVE. — PHONE SUPERIOR 3038-3039

Plants and People
(Continued)

ter of the **Industrial Packaging Engineers Assn. of America** recently, when over 100 members of the organization visited the firm's Lakeview mill.

Harris-Seybold Co., Cleveland, announces the removal of its Eastern district headquarters and service offices to 380 Second Ave., New York.

William Hart Wilson has been appointed general manager of **The Protective Coatings Corp.,** Belleville, N. J., succeeding **Walter Hardy,** who has joined **Shellmar Products Corp.,** Mt. Vernon, Ohio. The Protective Coatings Corp. manufactures case lining and pre-formed protective bags of Aquastop, Mr. Wilson, formerly in charge of container development and industrial packaging for the Federal Telephone & Radio Corp., is prominent in the fields of industrial packaging for export and domestic trade. He has written technical articles (including "Export Pack," MODERN PACKAGING, April, 1947, p. 134) and operational manuals.

W. H. Wilson

The board of directors of **Barnes & Reinecke, Inc.,** Chicago, elected **Russell J. Nadherny** as executive vice president and director of engineering and production.

Milton C. Carlson has been appointed assistant sales manager of **Signode Steel Strapping Co.,** Chicago.

D. W. Figgis, president of the **American Can Co.,** was recently awarded an honorary doctor of engineering degree and a citation for "distinguished service in the field of human relations in industry" by the **Stevens Institute.**

The Brown-Bridge Mills, Inc., Troy, Ohio, announce the appointment of **C. Wilson Wood, Inc.,** of Baltimore and Philadelphia, as their mill representatives.

A new Glass Section has been added to the laboratory facilities of **Sam Tour & Co., Inc.,** engineers, metallurgists and consultants, to specialize in glass failures in an effort to contribute to the improvement of glass for containers and industrial applications. The firm's glass testing equipment will be located in the company's building at 44 Trinity Place, New York.

Robert Hazen has been elected vice president of the **Specialty Package Div., Leeds Sales Co., Inc.,** New York.

Harry J. Mullany has been made manager of the Elmira plant of **Thatcher Glass Mfg. Co., Inc.,** Elmira, N. Y. **Andrew E. Mauro,** former plant manager, is now on the general staff.

The Ottawa River Paper Co., Toledo, Ohio, has announced plans for the expansion of the company's new corrugated container plant at Flint, Mich.

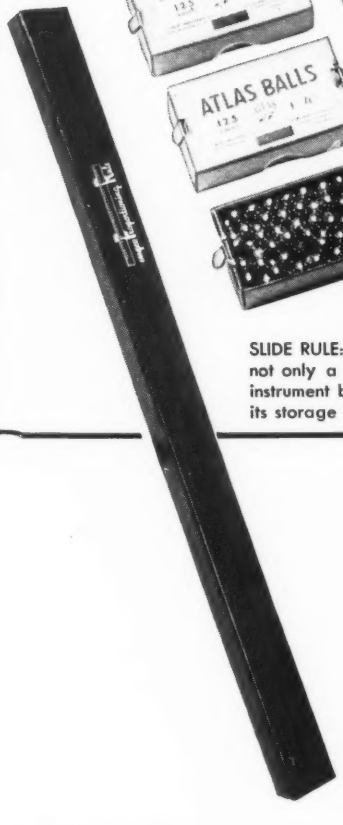
The Mead Corp. announced that the paper manufacturing operations in its **Dill & Collins Division,** Philadelphia, will be discontinued early in August. Three paper machines are to be dismantled and the manufacture of raw stock and uncoated grades formerly made there will be transferred to other Mead mills which are better equipped to

What qualities should your packages have?

STEEL BALLS: Box must be moisture-and-grease-proof, and sturdy enough to withstand the heavy weight of shifting balls.

CANDY BOX: Eye appeal at point of sale is as important as protection of product until consumed.

SLIDE RULE: The manufacturer needs here not only a safe carrier for a precision instrument but a semi-permanent case for its storage when not in use.



As our examples show, three different products make exactly three different packaging problems.

Especially interesting is the case of the steel balls. Formerly merchandised in bulk, as in package at right, they are now sorted as to size and delivered to retailer in boxes as shown. Result: Inventory no longer a problem, sales speeded up, profits increased.

"Creative packaging" here not only did a better job of product protection, it won new good will from dealers.

If you are in any doubt about the rightness of your packages for their job, why not use our half-century of experience for a check-up? No obligation, positively.

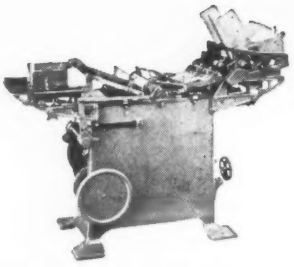
CREATORS AND MANUFACTURERS OF SET-UP

WALTER P. MILLER COMPANY, Inc. *Paper Boxes*

452 YORK AVENUE • PHILADELPHIA 23, PA.

A CUSTOM BOXING SERVICE

To meet your Packaging Problems

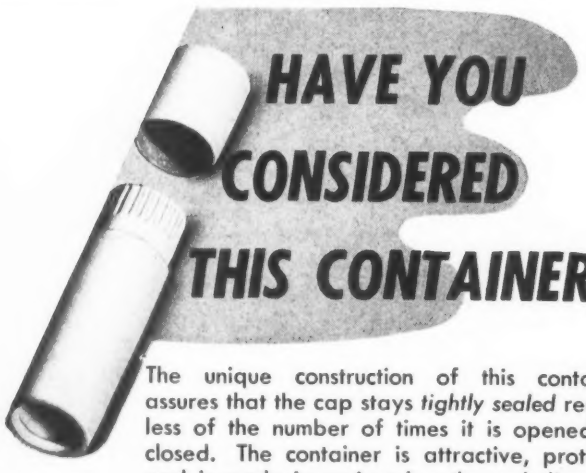


the
MULTIPRESS

FOR
Folding Cartons
Paper Products
Booklets
Labels

IMPRINTS
Batch Numbers
Blockouts
Flavors
Colors
Prices
Codes
Dates
Sizes

On imprinting problems consult
B. VERNER & CO., INC.
PRINTING PRESS MANUFACTURERS
52 Duane St. New York 7, N. Y.



The unique construction of this container* assures that the cap stays *tightly sealed* regardless of the number of times it is opened and closed. The container is attractive, protective and is made in various lengths and diameters. It is perfect for safe packaging of ampules, vials, pencil leads, roll film, fountain pens and points and many other products.
We can apply your label to any surface of this container or print the container, one color ink on white or colored stock.
Adaptable to automatic filling and closing.
The box that adds shelf appeal while affording perfect protection.
Ask for samples and prices.

* Pat. Pending

NIEMAND BROS. Inc.
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RAvenswood 8-0909

Plants and People
(Continued)

produce these grades. The coating mill, however, will remain in operation on the site. In a statement, the corporation said it regretted the decision to shut down, which was "dictated by economic necessity."

The Irvington Varnish & Insulator Co., Irvington, N. J., has announced the appointment of **Robert E. Jones** as vice president and general manager of its cap seal division.

R. E. Jones

Mr. Jones has been with the company since 1934 and formerly was assistant treasurer. **Willis J. Stillwell,** former assistant to the president, is now vice president.

John W. Apgar has been made assistant to the general manager of Irvington's coating division. Mr. Apgar is succeeded as division sales manager by **Donald May.**

J. Scheuermann has been elected vice president of **Cameron Machine Co.,** of Brooklyn, as well as vice president of Cameron Machine Co. of Canada, Ltd. Mr. Scheuermann is also sales manager of the company. **Ross Mekeel** was elected secretary and will continue to serve the company as purchasing agent. **Mr. Donnelly,** former chief engineer, has resigned, from the organization. **Tom Carter,** formerly in the new design department, has become manager of the engineering department. **R. W. Cummings** has resigned as secretary and after a three months' vacation will return as sales representative in the Southern states. **E. J. Ward** will take over Mr. Cummings' previous duties as service manager.

White Metal Mfg. Co. of Hoboken, N. J., manufacturer of collapsible tubes, has announced the appointment of **H. J. Fouts & Co.,** Los Angeles, as its exclusive representative for the State of California. **The Cutler Chemical Co.** of Philadelphia, has been named its exclusive representative in Eastern Pennsylvania, Delaware and Maryland.

I. M. Bernstein, former director of the **National Printing Ink Research Institute,** Lehigh University, Bethlehem, Pa., is now associated with the **Gotham Ink & Color Co.,** Long Island City, N. Y. **Dr. William C. Walker** is associate director of the Institute.

Announcement has been made of the organization of **Advertising Research Associates,** Salt Lake City, Utah, to serve industry in the field of advertising research and planning, product and market analysis.

Arthur Colton, inventor and manufacturer of machinery and packaging equipment for the pharmaceutical industry, died recently at the age of 89. He organized the **Arthur Colton Co.** in Detroit and was a pioneer in developing high speed, automatic pharmaceutical equipment.

Edward J. Brodhag, jobber sales manager of the **Rhinelander Paper Co.,** Rhinelander, Wis., died recently while on a business trip in Los Angeles.

Wilton H. Gage, 85, who was active in the glue industry throughout his life, died at his home in St. Louis recently. He founded the **W. H. Gage Glue Co.** in 1913.

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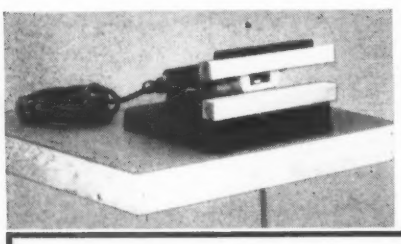

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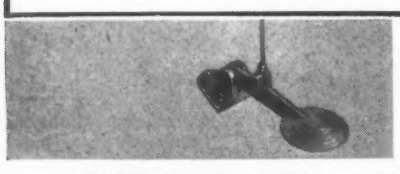
MOISTURE TIGHT

With the Foot-Operated
CRIMPMASTER
Model "B" Heat Sealer

- For Extensive Sealing Operations
- Operates on 110 volt A.C. or D.C.
- Approved by Underwriters Laboratory



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Leaders in Lower-Price Heat Sealing Equipment Since 1936
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For Your Information

At the recent 30th annual meeting of the **National Paper Box Mfrs. Assn., Inc.,** held in Cincinnati, **C. Knowlton Shaw, Jr.,** of **Shaw Paper Box Co.** was re-elected as president. Newly elected vice president is **Albert S. Daniel** of **W. C. Ritchie & Co. Henry J. Aemisegger** of **G. A. Bisler, Inc.,** was re-elected as treasurer. New directors are **Walter P. Miller, Jr.,** of **Walter P. Miller Co., Inc.,** and **T. Harry Lang** of **Newark Paper Box Co.** Re-elected directors included **Allen K. Schleicher** of **F. J. Schleicher Paper Box Co.; Gordon Dickerson** of **American Tri-State Paper Box Co.; James C. Scully** of **Puget Sound Paper Box Co.; A. M. Bond** of **Consolidated Paper Box Co.** For the Western Division of the association, **Erwin P. Ruf** was named chairman and **Charles M. French,** vice chairman. **C. C. Vatter** is chairman of the Southern Division; **William Price,** vice chairman; **William Patterson,** secretary-treasurer. New York was selected as the convention city for 1949. The date set was May 15 to 18.

Clifford L. Vanderbogart, vice president of **Niagara Lithograph Co.,** was elected president of the **Point of Purchase Advertising Institute** at a recent meeting of the Institute directors. This is his third term as president. Other elected officers are **John Palmer,** first vice president; **Al Rode, Jr.,** second vice president; **Royal Hoffman,** secretary-treasurer. **Norman McKean** is executive director.

A new 74-page book titled "Champion Kromekote" has been published by **The Champion Paper & Fibre Co.,** Hamilton, Ohio. Beautifully printed and plastic bound, this reference manual on Kromekote contains many demonstrations of work on various weights and grades of Kromekote by various printing methods. There are single-color examples, duotones and four-color process, as well as embossing. The new book is available only through Champion merchants distributing Kromekote.

Officers elected to serve the **American Society for Testing Materials** for 1948–1949 at the organization's annual meeting in Detroit last month are: president, **Richard L. Templin,** assistant director of research and chief engineer of tests, **Aluminum Co. of America;** vice president, **L. J. Markwardt,** assistant director, **U. S. Forest Products Laboratory;** directors, **Leslie C. Beard, Jr.,** of **Socony-Vacuum Oil Co., Simon Collier** of **Johns-Manville Corp., Theodore P. Dresser, Jr.,** of **Abbot A. Hanks, Inc., How-**

What's Doing

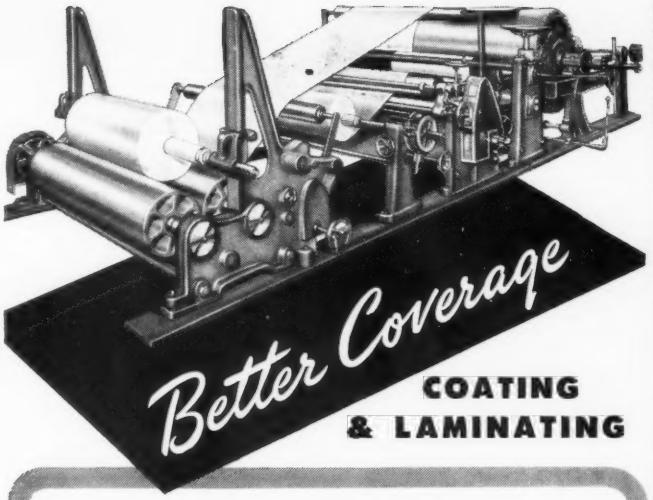
July 21–23—**Lithographers National Assn.,** annual convention, Greenbrier Hotel, White Sulphur Springs, W. Va.

Aug. 2–13—**Chicago Gift Show,** Palmer House, Chicago.

Aug. 10–13—**Western Packaging Exposition and Conference,** Civic Auditorium, San Francisco.

Aug. 18–21—**National Food Distributors Assn.,** Sherman Hotel, Chicago.

Aug. 23–27—**New York Gift Show,** Hotels New Yorker and Pennsylvania, New York.



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No. GL-2, illustrated, is an all-purpose, heavy duty machine that is adaptable to any type laminates required. The open design construction permits easy installation of varied applicators for pastes, glues, waxes or asphalts. Assemblies may be rearranged, new ones added or subtracted, according to sheet leads required. Write for complete detailed information.

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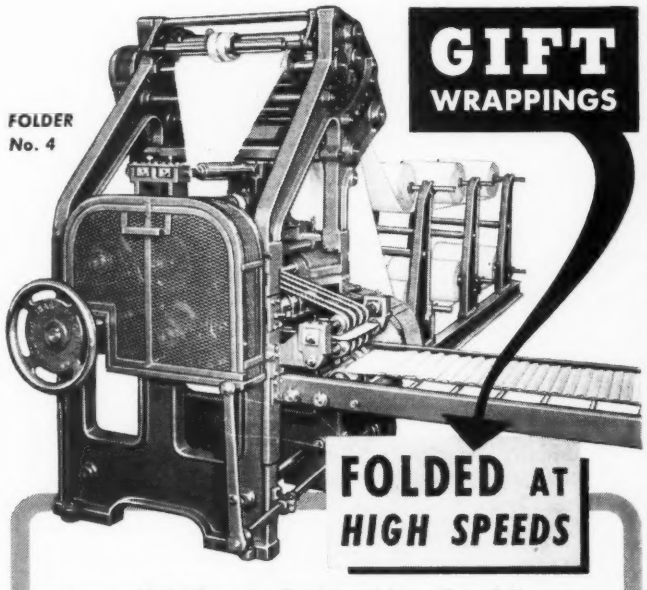
FOLDER No. 4



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Increased folding production with perfect delivery at new high speeds is now yours with our new No. 4 folder. This machine accepts single sheets or multiples up to six sheets. Versatile, it is adaptable to folding of many other paper products, as well. Write today for complete descriptive details.

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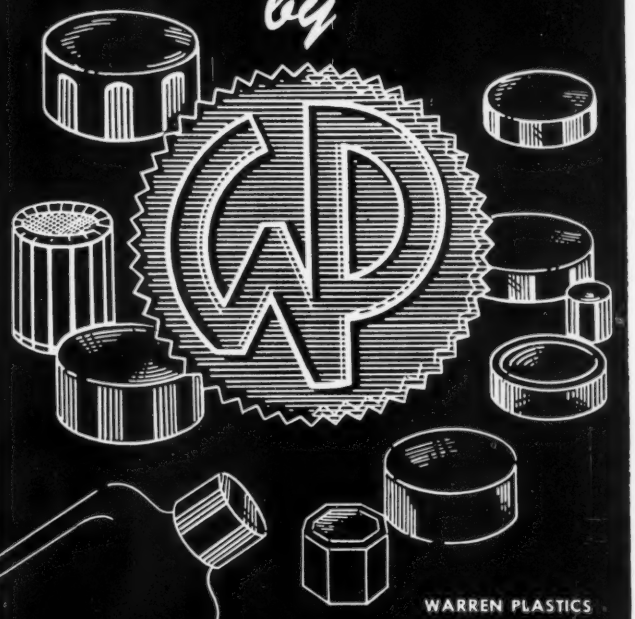

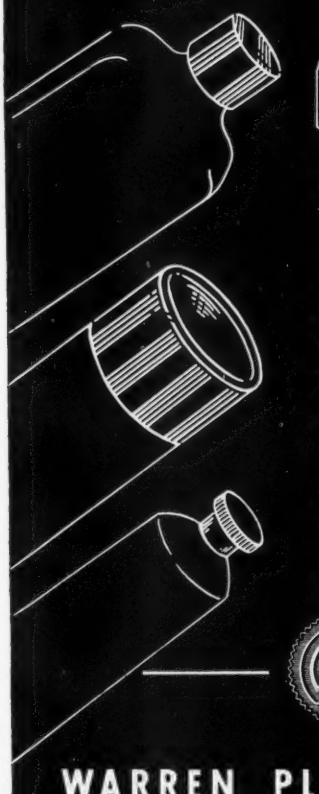

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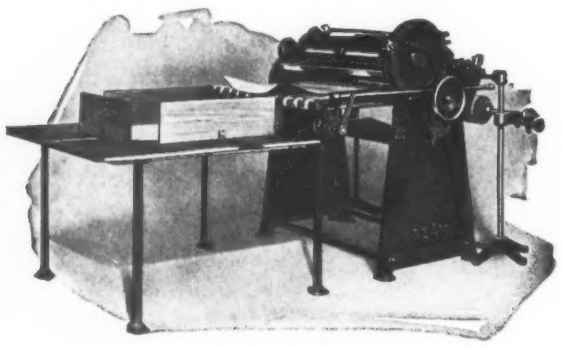
have been sold to lick the "cost thief" in cutting into sheets all kinds of transparent papers and other packaging materials. Particularly are the **"ELECTRONIC-EYE"** solving the sheeting problems of your competitors. Their unfailing performance for accuracy and high productions might also be the answer to your searching for profit producing equipment. May we answer your questions —NOW?



CHARLES BECK MACHINE CORP.

13th & Callowhill Streets Philadelphia, Pa.

For Your Information
(Continued)

ard K. Nason of **Monsanto Chemical Co.** and **Edgar W. Fasig** of **Lowe Bros. Co.**

The 1948 edition of **"International Industry Yearbook,"** an encyclopedia of industrial progress, is now available. Of special interest to the packaging field are chapters on food packing, industrial packaging, paper and pulp, industrial design, materials handling, plastics, textiles, the paint, varnish and lacquer industries, and the glass, porcelain and ceramic field. The volume is priced at $10 a copy. Address orders to International Industry Yearbook, 551 Fifth Ave., New York.

A new loose leaf publication with a comprehensive coverage of furniture packaging in compliance with the Consolidated Freight Classification is given "official" status through recognition by the national associations of traffic groups and furniture and container manufacturers, along with officials of the carriers who collaborated in its preparation and interpretation. Titled **"Furniture Packaging,"** it details and illustrates approved materials and methods. The book with supplements is priced at $8 per year and may be obtained through trade associations or from Henry C. Segerstrom, 50 W. 45th St., New York.

A two-color folder illustrating and describing pertinent features of the Ross automatic and semi-automatic cartoning machines is available from **A. H. Ross Co., Inc.,** Box 998, Dayton, Ohio.

Irving M. Footlik, instructor in materials handling engineering at Illinois Institute of Technology and a member of the engineering staff of **Ekco Products Co.,** Chicago, has been elected president of the newly organized **Midwest Materials Handling Society.** Formed to further research and analysis of the latest methods in cost reduction in the materials handling field, the society is affiliated with the **National Materials Handling Institute, Inc. H. E. Lindquist, International Harvester Co.,** is vice president; **J. S. Williams, Jewel Tea Co.,** treasurer; **Raymond Monroe,** *Modern Materials Handling Magazine*, secretary.

The various forms, properties and applications of Vinylite resins and plastics are fully illustrated and described in a comprehensive new booklet, "Vinylite Resins and Plastics," published by **Bakelite Corp.,** 300 Madison Ave., New York. Address requests for copies to the firm.

The Industrial Packaging Engineers Assn. has announced the election of the following officers of its various local divisions; **Tom D. Shields, Jr.,** of **Sunnen Products Co.,** president of the Missouri Division; **R. E. Farney,** of **Spiegel, Inc.,** president of the Illinois Division; **Earl B. Candell** of **General Electric Co.'s Lamp Dept.,** president of the Northeastern Ohio Division; **Gale C. Cunningham** of **North American Aviation, Inc.,** president of the Southern California Division.

J. N. Hamilton, packaging consultant recently retired from Montgomery Ward & Co., was awarded a lifetime membership in I.P.E.A.A. by **R. Frank Weber,** national board chairman, for his contribution to the advancement of packaging and materials handling.

The Philadelphia Division of **The Yale & Towne Mfg. Co.** announces a new two-color, 20-page bulletin on pallet-

Outlandish problems gladly solved!

That's our business! Analyzing the problems—however difficult—inherent in a product, with respect to its *packaging*. Over and over again we solve those problems by installing a St. Regis Packaging System, consisting of one or more St. Regis packers filling St. Regis multiwall paper bags. It makes a remarkably fast, efficient and economical operation.

Over 400 agricultural and industrial commodities are now being packed in St. Regis multiwalls. They are as diverse as doughnut mix and cement! Our research never stops in the effort to *tailor* these strong kraft bags to their particular job.

Our nearest sales office would like to talk with you about your problems of use, transportation or storage. A St. Regis Packaging System may be the answer.

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MODEL A.I. PAK KING

automatic filler

New design now available for spices, powders, teas, grated cheese, coffee concentrates in jars, cans or cartons. 1 gram to 8 ozs. or more at output speeds from 40 to 70 per minute, others from 100 to 150 per minute. Same timed cycle speed on all volumes with unit pictured above filling 1¼ oz. canister of pepper. Dust collector, settling mechanism if required. Low initial and operating costs with full automatic fast changeover features.

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WEIGH RIGHT Packaging Machinery

WEIGH RIGHT AUTOMATIC SCALE COMPANY

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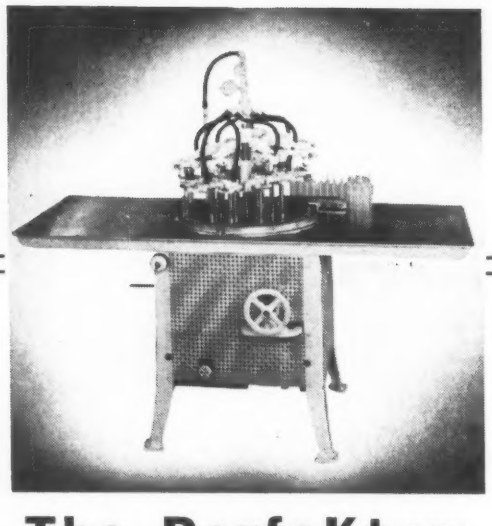

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An automatic ampul and tube sealing machine which provides superior sealing at a rate vastly exceeding that of hand production. It employs the proper technique for a perfect and full seal. Ampuls ranging from 1 cc through 20 cc are sealed at rates up to 4000 per hour. The AMPSEAL can be prepared to handle all types of ampuls in the above mentioned range. *Write for literature on the Ampseal and our filling and washing equipment.*

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For Your Information (Continued)

system applications, hand lift and Worksaver pallet truck models, and recommended pallet design. This Bulletin P-673 may be had on request to the firm.

The rapidly growing interest in the pre-packaging of fresh fruits and produce prompted the publication of "A Brief Manual on Produce Pre-Packaging" by **The Dobeckmun Co.** The bulletin lists the retailer and consumer advantages of pre-packaging and the fundamentals that should be followed to attain satisfactory results. Accompanying the bulletin are a chart compiled by **Wilbur L. Lennox** of **Ohio State University** and samples of cellophane bags available from the company for pre-packaging fresh fruits and produce. Requests for the sample kit and manual should be addressed to The Dobeckmun Co., Cleveland.

A new 8-page catalog describing and illustrating 18 different marking and code-dating machines has been issued by **Adolph Gottscho, Inc.** Requests for this catalog # 030 should be addressed to the firm, 1 Hudson St., New York.

Two new bulletins have been published by **U. S. Bottlers' Machinery Co.** One covers the latest methods of air-cleaning containers by the advanced model U. S. Sanitair automatic air cleaner. The other illustrates the U. S. automatic corker designed for handling flanged-top corks. Requests for copies should be addressed to the firm at 4015 N. Rockwell St., Chicago.

Vol. I. of the Proceedings of the **Forest Products Research Society** has just been published. Included in this 340-page, cloth-bound book are all the papers (with discussion) presented at the first national meeting of the society. Requests for copies, priced at $6, should be addressed to Thomas R. C. Wilson, secretary-treasurer of the society, P. O. Box 2010, University Station, Madison, Wis.

Dr. B. S. Clark, director of research for the **American Can Co.,** has been elected president of **Associates of the Food and Container Institute of the Armed Forces,** a group organized about a year ago for the scientific investigation of food and container problems that would confront the nation in any future war. Membership of the organization now includes 166 companies and trade associations. Other officers are **T. M. Rector** of **General Foods Corp.,** vice president; **Victor Conquest** of **Armour & Co.,** treasurer; **Col. R. A. Isker, U. S. Army,** retired, secretary; **R. C. Newton** of **Swift & Co.,** vice chairman of the board of directors. A chairman will be elected later. The group, with headquarters in Chicago, will work closely with the **Food and Container Institute of the Armed Forces,** directed by **Col. C. S. Lawrence.** Formation of this new permanent organization follows more than a year's preliminary work directed by **H. J. Williams, Wilson & Co.**

This design, Christmas Gardenia, along with others which are equally attractive, is currently available in sheets or rolls for box coverings or other purposes which this insert may suggest to you. Why not drop us a line requesting large size sheets so that you can prepare an attractive dummy box to present to your customer?

DECOTONE PRODUCTS

DIVISION

Fitchburg Paper Company

PACKAGING PAPERS *Converted Papers* SPECIALTY PAPERS

FITCHBURG, MASS.

U.S. Patents Digest

Edited by H. A. Levey

This digest includes each month the more important patents which are of interest to those who are concerned with packaging materials. Copies of patents are available from the U. S. Patent Office, Washington, at 25 cents each in currency, money order or certified check; postage stamps are not accepted.

Vending Machine, J. M. Devens, Springfield, Mass. U. S. 2,440,251, Apr. 27. Apparatus for dispensing bottles and the like comprising a casing having side walls, transporters between walls rotatable on vertical axes and having spirally arranged members for receiving and lowering bottles.

Stacking Machine, J. A. Poitras (to Solar Mfg. Corp., New York, N. Y.). U. S. 2,440,347, Apr. 27. In a condenser stacking machine, the combination of means for feeding a tape foil along a defined path and means for shearing the tape into pieces of predetermined length, a stacking fixture positioned to receive the sheared lengths and means actuated with shearing means for transversely shifting fixture alternately to the right and left of path for each operation of the feeding means.

Receptacle Filling Apparatus, P. Auberman, Caldwell, Idaho. U. S. 2,440,354, Apr. 27. An endless belt-conveying means for continuously delivering articles to said feed hopper, including a feed conveyor tiltable about a horizontal axis, and which includes a motor-driven variable speed transmission device.

Apparatus for Making Convolute-Wound Tubing from Sheet Material, B. Bogoslowsky, Jackson Heights, N. Y. U. S. 2,440,390, Apr. 27. Apparatus for making convolute-wound tubing from sheet material comprising a mandrel, a frame, a plurality of rollers mounted on frame to rotate on parallel axes arranged around mandrel and means for guiding sheet circumferentially of mandrel as it rotates.

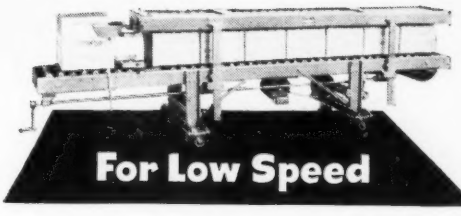
Apparatus for Shaping Tubular Blanks, B. Bogoslowsky, Jackson Heights, N. Y. U. S. 2,440,391, Apr. 27. Apparatus for making an embryo tubular article having a tubular body portion and a shoulder and tubular neck integral with tubular body, comprising a head, a plurality of fingers mounted on head and spaced at intervals around a center and means for moving fingers radially inwardly toward center, each finger having surfaces which engage spaced portions of one end of a tubular blank to fold same inwardly.

Spectacle Case, P. Mittell (to Windsor Case Co., Inc., Providence, R. I., a corporation of Rhode Island). U. S. 2,440,552, Apr. 27. A receptacle comprising a pouch element formed from a one-piece blank of flexible sheet material and including a back wall panel formed with a window and with slits adjacent to the opposite ends of window and a closure flap hingedly connected with the top of back wall panel and adapted to occupy a position alongside the exterior of front wall panel.

Apparatus for Packaging Safety Pins, G. E. Klock (to International Cellucotton Products Co., Chicago, Ill.). U. S. 2,440,749, May 4. In an apparatus for packaging safety pins, the combination of means for guiding a pair of tape strips into relatively superposed relation, means for feeding safety pins successively into relatively spaced positions between the tape strips, said feeding means comprising a guideway, means movable in guideway for advancing safety pins along said guideway and pin-conveying pockets supplied with a predetermined number of pins which are successively delivered as units to tape strips provided with an adhesive coating for adhesively uniting tape strips in face-to-face relation around the successively positioned pins.

Milk-Bottle Carrier, W. J. Lutey, Seattle, Wash. U. S. 2,440,902, May 4. A carrier for bottles comprising a rigid handgrip portion formed at each of its opposite ends with a bottle-holding portion, each holding portion having a recess opening to the end thereof, defined by two horizontally spaced finger-like portions and joined in a rounded edge defining the base of the recess, this recess being designed to receive the neck portion of a bottle therein.

Carton-Erecting Apparatus, P. J. Blackwell (to Robert Gair Co., Inc., New York, N. Y.). U. S. 2,440,840, May 4. An apparatus for erecting flatly folded cartons composed of integral inner and outer plies and provided with hinged cross partitions, a pair of side guides arranged close together at the front end and rounded outwardly intermediate of their ends and spaced apart



Where total volume is small, or where small runs are handled periodically, PACKOMATIC's hand-glue, belt compression sealer is a preferred unit for the manual application of adhesive and compression sealing of cases. Equipment has feed table, glue pot and brush. Only one operator is required.

For production requirements up to 3,000 cases per hour, PACKOMATIC's *automatic* Model D shipping case gluer, with belt compression sealer is recommended. Unit is adaptable . . . flexible. Write for literature, or consult classified directory for nearest PACKOMATIC office. J. L. Ferguson Company, Route 52 at Republic Avenue, Joliet, Illinois.

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Cady-Test Instruments for PACKAGING MATERIALS

Bursting Strength Tester . . . makes the "Cady" or Mullen, or Pop test. Has uniform 12 second cycle, uniform hydraulic pressure, electric motor driven. Registers Bursting pressure of boards and heavy papers in lbs. per square inch. Area under test always visible; non-slip clamp prevents creeping. Available with various pressure gauges. Write for data.

Cady Micrometers for comparing or checking Thicknesses of papers and boards. Six inch diameter, easy-to-read dial has metric system graduations. Available with 5/16" or 1/2" anvil travel; 7" or 12" throat. Also used on plastics, felt, rubber, foil, and other materials needing calipering.

Cady Scales show basis weights for papers and tissues; Paper scales register 1000 sheet count weight, Tissue Scales shows 480 or 500 sheet count weight, also graduated in kilograms.

Write for complete information—Literature and Prices

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Pioneers in Paper Testing Instruments Since 1895

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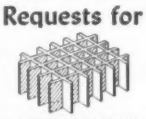

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U.S. Patents Digest
(Continued)

at their rear ends a distance less than the space between the outwardly rounded intermediate portions, a pair of pulleys adjacent each end of the side guides, a pair of belts extended between one pulley of each pair and engaging the outer faces of the guides and running lengthwise and contacting with the guides throughout substantially the entire length of guides to receive free edges of outer plies of a flatly folded carton blank between the belts and the guides and thereby engage and move the carton blank lengthwise.

Improved Tank for Hydrocarbon Fuels, J. A. Merrill and L. B. Sebrell (to Wingfoot Corp., Wilmington, Del.). U. S. 2,440,965, May 4. A self-sealing container for aromatic hydrocarbon fuels comprising a supporting layer, a flexible gum layer quickly self-sealing of a puncture therein upon contact with aromatic hydrocarbon fuels, an insulating layer located interiorly of self-sealing layer resistive to penetration of aromatic hydrocarbon fuels and made of a linear condensation polyamid and a layer of oil-resistant synthetic rubber only partially resistant to aromatic hydrocarbon fuels located interiorly and protecting said insulating layer against physical damage.

Device for Manufacturing Paperboard Containers, H. G. Faucherre, Bern, Switzerland (to Neher A. G. [Neher S. A.], a joint stock company of Switzerland). U. S. 2,441,014, May 4. In a container-closing device for interfolding flanges of a paperboard cover impregnated for being deformable as metal and of a paperboard container body, a rotatable and axially movable plate for receiving paperboard container body, a rotatable seaming head for holding cover with paperboard container body, a carrier movable towards and away from seaming head, a hollow bolt mount on carrier with axis outside seaming head, a folding roller mounted on bolt in height of seaming head for interfolding flanges and a heating device placed within hollow bolt for heating folding roller.

Lipstick Holder and Casing, M. C. Garrett, New York, N. Y. U. S. 2,441,017, May 4. A hollow member, a sleeve therin carrying a lipstick projecting from one end, said member having a bore to receive the sleeve and lipstick, a gear mounted in a rib to engage a rack, equipped with a cap.

Bottle Carrier and Package, E. M. Brogden and R. R. Brogden (to president and directors of Manhattan Co., trustee, New York, N. Y.). U. S. 2,441,134, May 11. A bottle carrier adapted to hold a plurality of cylindrical bottles of predetermined uniform size and shape with upwardly tapering neck portions comprising a strip of relatively thin, flexible sheet material suitably bent and having ends overlapped and joined to form an open-ended tubular container with a top section and bottom section both longitudinally continuous and connected to two opposed upright side walls.

Cap, A. H. Warth and P. Grabus, Jr. (to Crown Cork & Seal Co., Baltimore, Md.). U. S. 2,441,173, May 11. A cushion liner for closures of cellulosic material coated on at least one side with a co-extensive, thermoplastic sealing film of N-butyl methacrylate resin, amorphoid wax and finely divided clay, the resin being present in greater amount than the wax and the clay in greater amount than the wax or resin.

Bottle Release Mechanism, W. I. Reilly (to Cavalier Corp., Chattanooga, Tenn.). U. S. 2,441,289, May 11. A bottle dispensing mechanism for successively discharging bottles arranged horizontally in superimposed relation in a stack, comprising a pair of fingers at the ends of the stack respectively adapted when raised to engage the under side of the lowermost bottle in the stack and means for simultaneously raising and lowering the fingers, said fingers when lowered permitting the lowermost bottle to discharge through the stack.

Vanity Case, B. Wesson, Beechhurst, Long Island, N. Y., and N. Kupin, Brooklyn, N. Y. U. S. 2,441,303, May 11. A vanity case with a powder receptacle, a slidable flexible cover for case, a combined mirror and actuator plate pivoted at its inner end to cover, said plate being provided with a pair of opposed projections at free end and means for retaining solely said projections to maintain plate against the lower face of the receptacle.

Cigarette Case with Flexible Tongue, R. E. Mudd, Stronghurst, Ill. U. S. 2,441,326, May 11. A cigarette case with body portion having an upstanding peripheral flange, a top hingedly connected to flange, a latch on body portion formed to be flexed to engage and disengage the same, a preformed flexible plate detachably mounted on flange, mounting means being formed by having one end of plate bent upon itself to form an S-shaped clamp which engages the flange of body portion, this S-shaped portion normally extending outwardly at an angle thereto and

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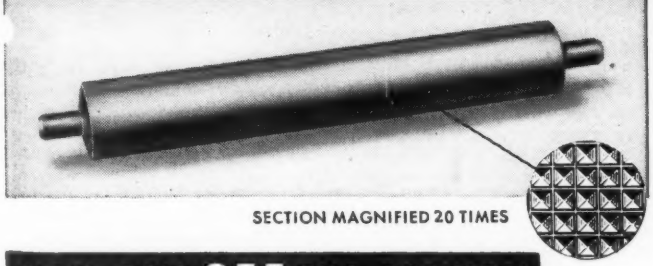

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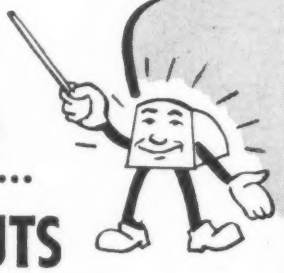

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adapted to be engaged by top when top is in closed position to be moved into parallel relation with body portion.

Rubber Hydrochloride Film, H. J. Osterhof (to Wingfoot Corp., Akron, Ohio). U. S. 2,441,328, May 11. In the cyclic process of producing rubber hydrochloride film for use in the packaging of foodstuffs by dissolving rubber in a solvent, gassing the cement thus produced to form a rubber hydrochloride cement (which contains a high boiling contaminant), producing film from a cement of the rubber hydrochloride so formed by evaporating the solvent to complete the cycle.

Bottle Carrier, J. F. Currivan, East Hampton, Conn. U. S. 2,441,346, May 11. A bottle carrier comprising a rim member having a continuous inner-edge formation, a gripping member formed of a section interiorly cut from rim blank and adapted to fit within the same, the gripping member being formed with opposed sets of curvilinear apertures and a strap forming a handle at one face of the gripping member and passing through spaced apertures in the gripping member.

Carton-Forming Machine, J. J. Quigley and P. Ricklefs (to Block Drug Co., Inc., Jersey City, N. J.). U. S. 2,441,372, May 11. A mechanism with vertical chute for piling flat, knocked-down cartons one above the other, means for removing flat cartons one by one from bottom of chute and endless conveyor chain with horizontal top and bottom runs and spaced pockets connected to same, each pocket adapted to receive one carton as removed from chute and equipment to cause gradual opening and squaring of the cartons placed in the pockets.

Method and Apparatus for Closing Cartons, R. Guyer and H. O. Ronning (to Waldorf Paper Products Co., St. Paul, Minn.). U. S. 2,441,410, May 11. A carton-closing apparatus for cartons with cover hingedly connected to same by means of moving carton in direction perpendicular to one side wall, means of engaging the free edge of cover to hold within a radius of curvature about the fold line of the cover when the attached side wall is perpendicular to the carton bottom and means for folding the cover downwardly to overlie the open top of the carton.

Method and Machine for Forming and Filling Reclosable Cartons, W. A. Ringler, W. E. Sooy and R. W. von Sydow (to The Gardner-Richardson Co., Middletown, Ohio). U. S. 2,441,445, May 11. A method of forming end closures on cartons having a tubular body and an end closure having a top wall, a front wall articulated to the top wall, side walls articulated to the ends of the front wall and glue tabs articulated to the side walls, the method comprising folding through a substantial angle said front and side walls with respect to the remainder of said parts, then folding them back substantially to original position whereby glue tabs are brought upwardly with respect to top wall, then folding and positioning glue tabs against walls.

Food Package, R. A. Farrell (to Marathon Corp., Rothschild, Wis.). U. S. 2,441,477, May 11. A yeast package comprising a cake of fresh yeast completely enclosed in a sheet material comprising a relatively impermeable base sheet positioned externally of the package, a thermoplastic and moistureproof adhesive coating on base sheet and a relatively porous creped water-absorbent tissue sheet adhered to thermoplastic adhesive, creped sheet being in contact with yeast cake and capable of absorbing moisture-formed droplets thereon.

Coin Stacker, C. H. Hagopian, New York, N. Y. U. S. 2,441,486, May 11. A device for stacking and counting coins and packaging them in wrappers of predetermined widths depending upon the respective coin denominations.

Manually-Operated Bottle Loader, J. Larmett and J. S. Lamett, Waterbury, Conn. U. S. 2,441,494, May 11. A bottle loader for simultaneously transferring a plurality of bottles having enlarged upper beads from one place to another, having a base with a row of spaced apertures shaped to embrace the enlarged upper beads of bottles when lowered thereupon, a pair of upwardly-inclined wings hinged to base and located opposite sides of apertures with strong spring means on some to press wings upwardly to non-bottle-holding position and manually-operated depressible means for swinging wings downwardly to cause them to engage under the enlarged upper beads of bottles to permit bottles to be lifted when loader is raised.

Bread Package, F. R. Schmitt, Hollis, N. Y. (to C. P. Schmidt, Towson, Md.). U. S. 2,441,513, May 11. A bread package having a transparent wrapper containing a portion of sliced bread

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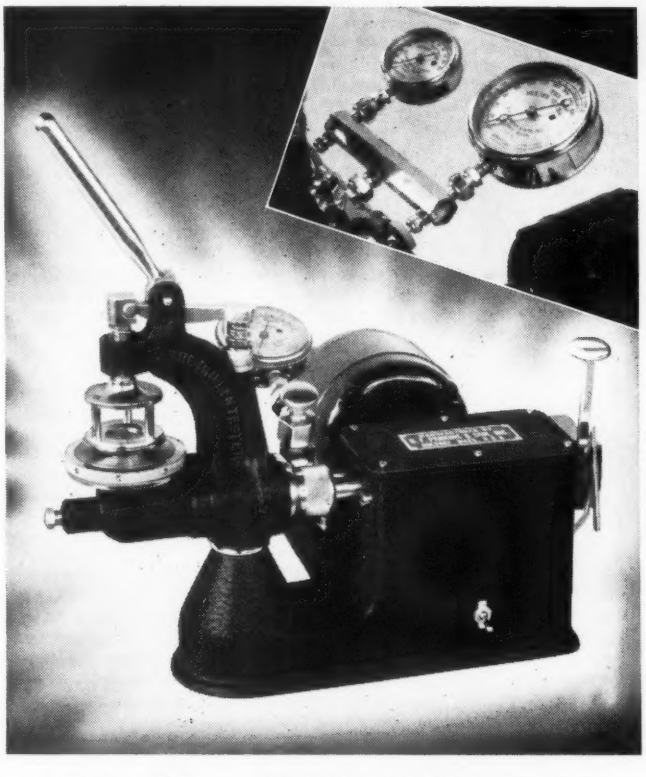

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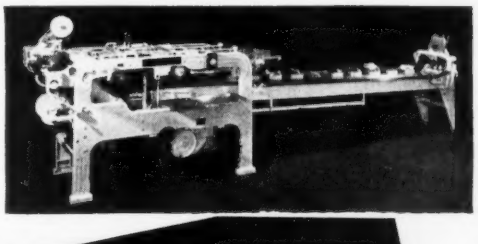

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comprising a single stack of bread slices positioned with the yielding soft crumb face at each end thereof extending longitudinally of the wrapper, the wrapper having the entire length of its seam along the pressure-resistant crust of the stack and parallel to the bread slices, making entire crumb faces exposed to view.

Plug Seal for Containers, J. M. Schorr, New Orleans, La. U. S. 2,441,514, May 11. In a sealing plug for containers requiring a high vacuum content, in which the container has a screw-threaded bore, a table portion and a shoulder portion at right angles to the table of a diameter larger than that of the bore, the combination of a plug having an interior screw-threaded bore and an exterior screw-threaded portion with a machined cylindrical portion without screw threads; a second plug exteriorly screw threaded for engaging interior bore, second plug having a circular flange with a milled lower surface extending laterally of the cylindrical portion, a metallic washer having an outer diameter substantially that of the outer diameter of flange; first and second plugs being connected by screws for rotation of both simultaneously, close fit of metallic washer and cylindrical portion providing a seal to rubber washer and rubber washer providing a four-point seal on screwing of combined plug into bore of the container.

Bottle Dispenser, E. A. Terhune, Oak Park, Ill. U. S. 2,441,519, May 11. In a dispensing machine, a plurality of parallel upright compartments, each having an elevator for supporting articles to be dispensed therefrom and means for actuating said elevators in consecutive order by step-by-step movement to eject the articles one by one from openings at the tops of compartments, the ejection openings of compartments being disposed in cascade relation to each other.

Collapsible Tube with Sealing Plug and Decorative Flow Nozzle, P. G. Sprague, New York, N. Y. U. S. 2,441,649, May 18. A dispensing container comprising a collapsible tube having its front end open and surrounded by an externally threaded neck formed of stiff material, a cap having an open rear end internally threaded and screwed upon the threaded neck, a portion of the cap forwardly of its threaded connection with the neck being reduced in diameter to form a forwardly tapered annular seat and an open-ended socket surrounded by the seat, said cap being tapered forwardly from the socket to its front end and terminating at its front end in a rounded tip formed with diametrically extending slits meeting in intersecting and crossed relation at the center of the tip and forming an outlet for the cap.

Liner for Produce Containers, G. W. Traver (to Traver Corp., Chicago, Ill.). U. S. 2,441,778, May 18. In a bag, a front member and a back member, one member being wider and longer than the other and being folded over and permanetly fixed to outer face of other member to form permanent seams fixing the members together, auxiliary breakable seals located adjacent to permanent seams and breakably holding the adjacent faces together along bands to permanent seams.

Bottle Carrier, W. A. Morse, Mission, Kans. U. S. 2,441,834, May 18. In a bottle carrier, a tray having a number of cups formed therein to receive the bottoms of bottles, a plate having perforations therein, spaced above the tray; yoke holding the plate and tray in operative position, said cups having downwardly and inwardly inclined side walls disposed to center the bottles in the cups and in the perforations of the plate; a handle having a grip slidably mounted on the yoke for movement to and from a position where the grip is disposed above the tops of the bottles in the carrier, said yoke serving to mount the plate on the tray.

Mascara Case, N. S. Waterman (to Tarlen Corp., White Plains, N. Y.). U. S. 2,441,857, May 18. A case comprising a molded base section having a base wall and flange-like side walls with opposed pair of studs on their inner surfaces; a molded case top section fitting between walls and having a top wall, end walls, side walls and opening extended downward from top and the studs engage against the bottom face of top wall for holding the case section pivotally together.

Closure, J. R. Hoge (to Owens-Illinois Glass Co., a corporation of Ohio). U. S. 2,441,918, May 18. A sheet-metal closure comprising a circular top portion, a depending annular skirt on top portion, including an upper part of the same diameter as the top portion substantially throughout its height and a lower enlarged part including an obtusely tapered lower portion, with a sleeve gasket within the closure and means for securing the gasket against shifting bodily upward along the skirt.

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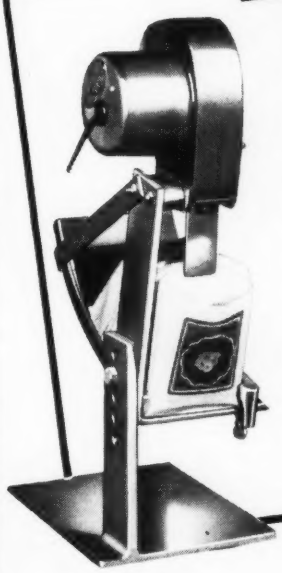

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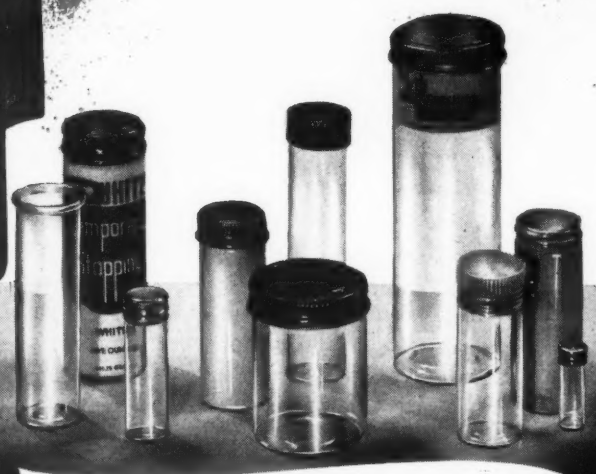

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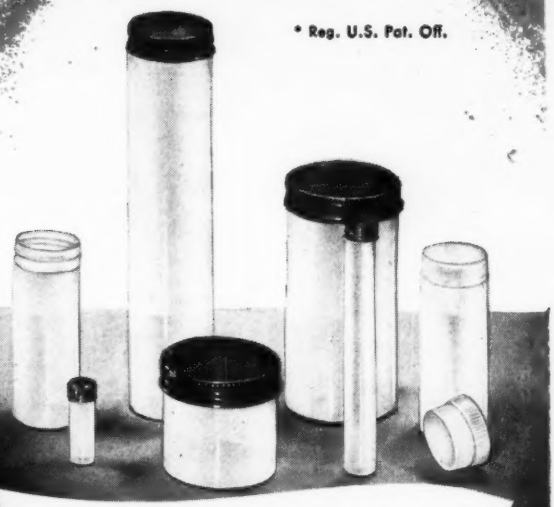

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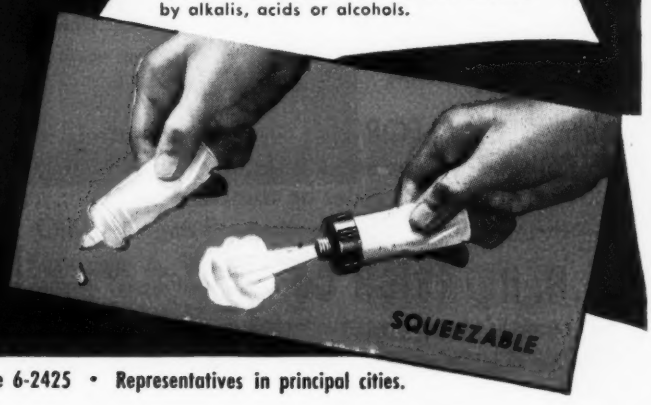

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PAWLING, NEW YORK

OPTI-CHEK
WILL CUT
REGISTRATION TIME!

The simple fool-proof operation of the OPTI-CHEK will cut your registration time in half and eliminate idle presses . . . for color registering is done *off* the press and once your plates are in printing position the job is ready to run with no further adjustments necessary. Two OPTI-CHEK models are available — Model F for use with flat-bed presses and Model R for use with rotary presses.

ALSO SEE US FOR the very latest Cottrell-Heinrich press for printing in aniline, gravure or letterpress . . . in any order or combination.

H. H. HEINRICH CO.
200 VARICK STREET
NEW YORK 14, N. Y.

Write for folder on either Model OPTI-CHEK or for further information on the Cottrell-Heinrich press.

Meat packagers report

(*Continued from page 127*) that these items fall almost in the same category with fresh red meats. The closer to the point of sale they can be sliced, packaged and sold, the better.

"We intend to continue to explore the possibilities of all our products which may conceivably lend themselves to self service. There is always the possibility that some new technical development or discovery will make it possible to develop new items."

Cooke of Penn Fruit

Citing his own company's experience with self-service meats, dating to July, 1946, Mr. Cooke of Penn Fruit Co. said that the ideal package size for self service is smaller than in standard service selling and that a wide range of package sizes is also essential.

"The tendency at present," he declared, "appears to be to a smaller unit, but Mrs. Consumer seems to buy more of them in self service."

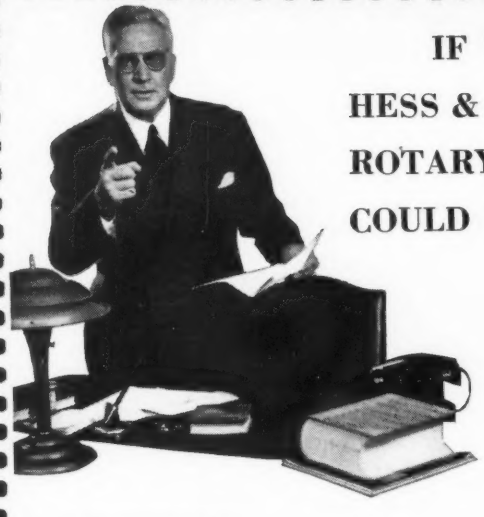
Urging close attention to proper servicing and rotation of the pre-packaged meat, Mr. Cooke reminded his audience that customers are readier to forgive mistakes in a service set-up than in self service. "When confidence in the package is violated," he said, "it is hard to regain."

Mr. Cooke pointed out that in self-service selling, the economy of combining several purchases in a single package is lost. He said that while hand wrapping appeared to be adequate in departments handling up to 20,000 lbs. of fresh meats, his own firm's production bogged down beyond this point. To cope with the problem, the firm has installed machines in all self-service meat operations.

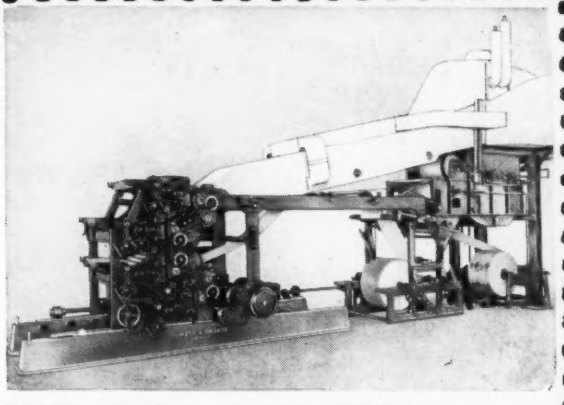
Said Mr. Cooke: "The machine-wrapped package does not compare in appearance with the neat, tailored hand-wrapped product. The time and expense factors, however, make hand wrapping impracticable beyond a certain point. In fresh meats we use the machine to wrap 75% of our packages. Roasts are hand wrapped. In the case of luncheon meats, it has been our experience that hand wrapping is faster. The machine requires cardboard backing. The cost of the board and the labor involved make this impracticable—not to mention the loss of visibility."

To circumvent time-wasting scale reading and computing prices for the packages, this company has devised a scale modification involving a fan-type scale with a separate chart for each price. The scale is built for instant insertion of the proper price chart and is expected to speed up the pricing operation and reduce errors.

"Rewrapping has been another production problem," stated Mr. Cooke. "Due to the fading of cold cuts, particularly those with high pork content, rewraps run as high as 10%. Obviously it costs more to rewrap a product than to wrap it originally. Thus rewraps cost more than double the ordinary package. Part of this can be avoided by not overloading the cases and reduc-



IF THE HESS & BARKER ROTARY PRESS COULD TALK . .



IT WOULD TELL YOU THIS . . .

Safety . . .
Push button control and accessibility. All parts in clear view of the pressman.

Low Operating Cost . . .
Cylinder construction permits use of stereotype plates—a saving up to 55%. Automatic lubrication, precision fitted parts, simplicity and efficiency of design create power savings up to 33⅓%.

Versatility . . .
Only the HESS & BARKER PRINTING PRESS offers you the advantage of several presses for the price of one, through rapid changing of cylinders.

Accuracy . . .
Specially designed bull gear tooth makes perfect register possible even at high speeds.

Durability . . .
Operating 20 hours a day 6 days a week for 8 consecutive years. With maintenance cost almost nil.

Write for illustrated folder on the new Hess & Barker Rotary Press.
Plan to see one in action, for the thrill of your printing lifetime!

HESS & BARKER
PRINTING PRESS & EQUIPMENT MANUFACTURERS

SINCE H·B 1897

212-22 S. DARIEN ST.
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TELEPHONE PE 5-4070

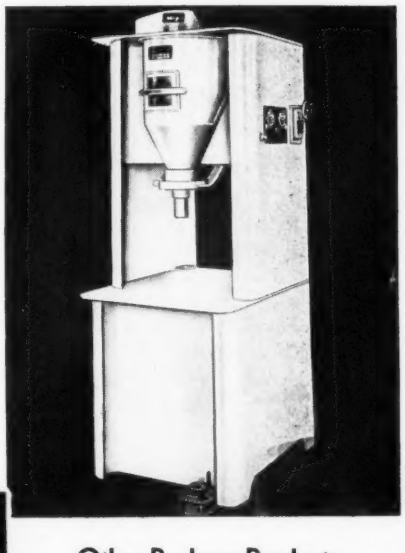
Check these facts about the
RODGERS FILLER

CONTROLLED OPERATION . . . Speeds can be set to fill any type of container with charges of ⅓ ounce to 10 pounds, and at rates to suit your specific production line.

100% DIAL CONTROL FOR CHANGEOVERS . . . You just turn the dials to make the change—no tools, no tinkering, no time-wasting.

CLOG-PROOF OVERDRIVE . . . Motor and all moving parts located over fill tube. Hence they can't clog with powder or paste. You save maintenance charges, sharply reduce production down-time.

Since its introduction only 18 months ago, the RODGERS FILLER has successfully handled every filling job assigned it—from viscous, heavy pastes to fine, flaky powders! That's because we can supply it with automatic special-duty attachments and conveyors.



Before you buy new or additional paste and powder filling equipment, you should know that the new RODGERS FILLER is the only filling machine with *all* these special features.

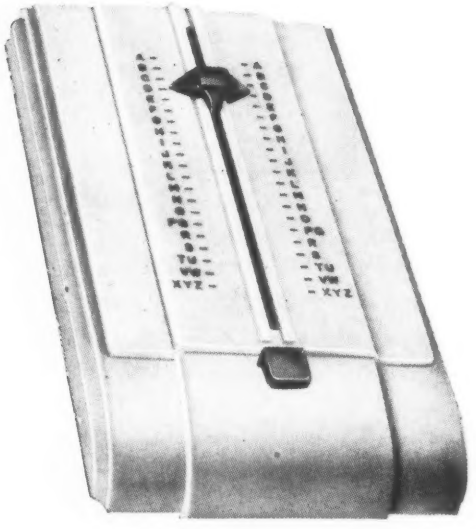
Write now for your free copy of Bulletin M-3, containing detailed information about this amazing new Filler.

GEORGE G. RODGERS COMPANY, INC.
225 WEST 34th STREET, NEW YORK 1, N. Y.
PHONE: BRyant 9-2040

Other Rodgers Products
Conveyors • Stainless Steel Tanks • Tube Clips • Stainless Steel Kettles • Tube & Jar Fillers • Portable Agitators Centrifugal Pumps • Tube Closers

POWDER MIXERS. All steel or stainless steel. Capacities from 300 pounds to 2½ tons. Equipped with motor drives.

Mack MOLDS FOR THE LEADERS—



TELEPHONE INDEX molded for Zephyr American Corporation includes automatic page selector. Exact inside dimensions were required for proper functioning of the intricate spring mechanism.

Insure your plastic molding jobs with MACK experience!

DESIGN

MOLD MAKING

MOLDING

Letting MACK figure it in plastics is good business, anytime. At MACK you receive the full benefit of experience that goes back to the early days of the plastics industry. If, on examination of your problem, we feel that the use of plastics is not the proper method, our engineers will so advise you. MACK means sound planning from choice of material and mold design to finishing. That's why a finished job from MACK will pay its way—every time!

THREE PLANTS: WAYNE, NEW JERSEY; ARLINGTON, VERMONT; WATERLOO, P.Q., CANADA

Mack MOLDED EXCELLENCE

ing the amount of exposure to the light. . . . We recommend that a record be kept of rewraps so that the type of merchandise and the cause of the rewrap can be traced and eliminated."

Metzger of Red Owl

Explaining that his company's stores have the meat department located across the rear so that the glassed-in processing room will attract maximum customer interest, W. C. Metzger of Red Owl Stores advocated close study of the layout of the wrapping bench for top efficiency.

"Pre-packaging requires more man-hours and you must plan for lower-cost help," he said. "Two meat cutters do the cutting, trimming and grinding and keep the workroom clean and orderly. All other operations are performed by the wrapping girls. We do provide a well-trained hostess who maintains the displays and assists customers. The hostess is the only contact between the customer and the meat department. . . . .

"Most of us have experienced the loss of meat business coincidental with the loss of an exceptional meat-department operator. It is gratifying to know that in complete self-service meats, the business is Red Owl business and does not belong to a single individual," Mr. Metzger declared.

He also reported that the pre-packaged meats increase the sale of fancy meats, poultry, luncheon meats and many other profitable items. "We have learned," he said, "that our customers are better judges of what they want than we are, or their own butcher can ever hope to be. No longer do we have the problem of selling little or no lamb, poultry, fancy meats, beef or any other item because the meat department operator doesn't like handling that product or thinks it won't sell."

Rankin of DuPont

J. Duncan Rankin of DuPont, discussing "How Far Has Self-Service Meat Progressed?" told of his company's pioneering work in this field in cooperation with H. C. Bohack Co.

The advent of the self-service store, Mr. Rankin explained, actually laid the foundation for successful merchandising of self-service meats. Out of continuing research in this field have come two special types of cellophane—MSAT-80 for fresh meats and LSAT for cold cuts and smoked meats, Mr. Rankin reported.

Declaring that the meat pre-packaging movement since the war has expanded at an accelerated rate to practically all sections of the country, Mr. Rankin discussed sales volume, gross profit, costs and other factors in relation to this type of merchandising.

"With the enthusiastic consumer acceptance of packaged meats, as reflected in sales increases, it would appear that from this angle it is a 'must' for all future consideration in retail meat merchandising," said Mr. Rankin. "When *total* store sales also show an upward trend, however, that's when this idea takes on real significance."

FOR THE LATEST IDEAS IN PACKAGING . . . .
. . . . "call CLEVELAND"

Attractive Prices • Quick Deliveries

Protect against damage to internal and external threads, protect against dust and dirt; against damage in dipping or spraying.

Plugs and Sleeves in diameters ⅛" up; Cups from ¼" up.

. . . FROM ANY ANGLE INSTANTLY JUSTIFY THEIR USE.

THE WEATHERHEAD COMPANY of Cleveland adds this extra protection to their products in transit, at practically no cost per unit.

Besides giving further identification to this world-famous family of fittings . . CLEVELAND CONTAINER SLEEVES, CAPS and PLUGS spotlight the extra care given before shipment by manufacturers to make their product easier and faster to pack and handle en route from production to installation.

The CLEVELAND CONTAINER Co.
6201 BARBERTON AVE. CLEVELAND 2, OHIO
- All-Fibre Cans • Combination Metal and Paper Cans
- Spirally Wound Tubes and Cores for all Purposes
- Plastic and Combination Paper and Plastic Items

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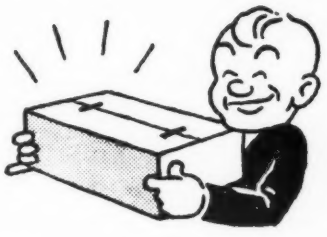
PRODUCTION PLANTS also at Plymouth, Wisc., Ogdensburg, N.Y., Chicago, Ill., Detroit, Mich., Jamesburg, N.J.
PLASTICS DIVISION at Plymouth, Wisc. • ABRASIVE DIVISION at Cleveland, Ohio
SALES OFFICES: Room 5632, Grand Central Term. Bldg., New York 17, N.Y., also 647 Main St., Hartford, Conn.
CANADIAN PLANT: The Cleveland Container Canada, Ltd., Prescott, Ontario

BE PROUD OF YOUR SHIPMENTS



International Retractable Anvil Machine Users are the "proudest" shippers in the world! They know their packages will arrive "as fresh as they left" . . . they know that by closing their filled cartons from the outside (tops and bottoms simultaneously, if desired), they are saving up to 50% on packing costs . . . they know that the printed matter on their cartons will not be covered or mutilated . . . they know all about the International line consisting of various models to fit any packaging need! They know, but do you? Write for full details . . . you can't afford to "swallow your pride" as far as your shipments are concerned.

INTERNATIONAL STAPLE & MACHINE CO.

Since 1938
HAVERTOWN 8, PENNA.
Distributors in all Principal Cities

Beautiful **RE-USE GIFT CONTAINERS**

Rich Leather-like Chest, 12" x 15" x 5" (Kraft Foods Company)

Guildcraft

"DESIGNERS & FABRICATORS" in METAL . . . LEATHERETTE . . . and PLASTICS

FREDERICK A. KRAUSE AND ASSOCIATES
8 S. DEARBORN ST. CHICAGO 3, ILL.

Attractive Packaging • Attractive Sales with

TUBULAR PAPER PACKAGES

Proper packaging will help make for larger sales of your product. Our eye-appealing Tubular Paper Packages are sturdy, light-weight and can be attractively decorated with your own design or in a wide range of colors.

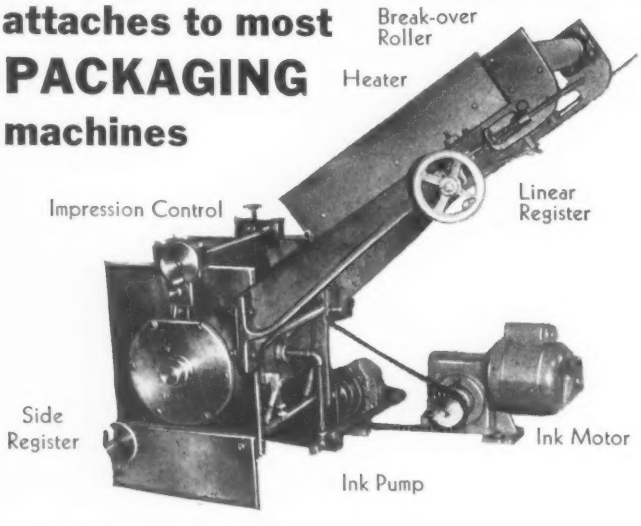
Diameters: 1/16" to 6"—in any lengths.

WE CAN SOLVE ANY TUBULAR PACKAGING PROBLEM.

DIAMOND STRAW & MACHINE CORPORATION

32-36 WEST 18th STREET DIAMOND NEWYORK 11 N. Y.

miniature
ROTOGRAVURE PRINTER
attaches to most PACKAGING machines



Here's a complete rotogravure printer which is small enough to be introduced into the web system of most bag making, candy, cigarette and food wrapping machines. It prints on all kinds of papers and foils up to 10" in width. Because of its miniature size, the price of this smooth operating unit is surprisingly low.

Write for literature and specifications today.

FRANCIS C. KILB CO.

243 Fulton Avenue Hempstead, L. I., N. Y.

Campaign for canned foods

Can manufacturers last month unlimbered their big guns in a concerted drive to bolster the sale of canned foods against the inroads of foods in frozen and fresh forms.

At a press luncheon in New York they disclosed the results of a year-long nationwide survey, conducted by the Nutrition Laboratory of Yale University, comparing canned foods with frozen and fresh on the basis of cost and availability.

Combining these results with those of a continuing six-year study of nutritional values, sponsored jointly by the National Canners Assn. and the Can Manufacturers Institute, they presented the conclusion of Drs. Willard A. Krehl and George R. Cowgill of Yale that "the differentials in cost shown with most items during most of the year . . . are so markedly in favor of food in cans that . . . it seems likely that canned foods in general provide not only the most food per dollar of cost, but also offer the best nutritional values from an economic standpoint."

The scientific study is well documented with graphs and tables covering 12 of the most common fruits and vegetables.

The cost and availability data were assembled with the help of students in 19 colleges of home economics in cities of 50,000 to 1,000,000 population located in each of the five major geographic areas of the country.

The students made repeated visits to food stores throughout the year, making a careful tabulation of availability and price of good grades of each of the commodities in each of its packaged forms.

In the final analysis, cost was based only on the weight of the solid, edible portion of each food—pods of fresh peas and the liquid portion of canned peas, for example, being discarded.

One of the most surprising results was the finding that fresh produce even in the months of greatest availability is generally more expensive—considering the edible portion only—than the same food packed in cans.

The average was 11% higher in warm months and 17% higher in cold months. This contrasted sharply with a public opinion poll of shoppers which showed that 80% of them believed fresh foods to be the most economical in summer, although this was found true of only a part of the fresh foods and then only in some places part of the time. Frozen foods in all seasons averaged more than 50% higher in cost than foods packed in cans.

As to nutrition, the can makers pointed to some 25 scientific papers resulting from their studies of the vitamin, fat, carbohydrate and protein content as substantiating their claim that canned foods provide the most nutrition, dollar for dollar.

These findings are to be made the basis of an intensive campaign in the consumer field, conducted for the Can Manufacturers Institute by Benton & Bowles, suing direct approach and all advertising media.

These are foils for first-class confectionery designed by English craftsmen and superbly printed. They will add immeasurably to the sales appeal of your products. Sterns also specialise in foils for the tobacco, dairy, chemical, ice cream, and many other industries. Plain, coloured, fancy, waxed or glue paper backed sheets, and reels for automatic machines.

ALUMINIUM FOILS

Send for assorted parcel £3 or 15$

H·C·STERN

CRAVEN HOUSE · 121 KINGSWAY · LONDON · ENGLAND

TRIED AND PROVEN SINCE 1940 . . .

ANDERSON CELLOPHANE BAG MACHINE

FOR HEAT-SEALING CELLOPHANE ONLY

U. S. Pat. No. 2205005

THE WISE BUY:

a HIGH SPEED patented machine—at a price you can afford.

Not excelled for . . .

SPEED · ECONOMY · SIMPLICITY

PLAIN AND PRINTED BAGS

Sizes: 1½″ x 2″ to 10½″ x 30″
Styles: Flat—Square—Single—Duplex
Tubes can also be made.
Action: Rotary and Automatic

Investigate these service features:

- Sales through direct factory representation
- FREE installation by factory trained men in the U.S.A.
- Your operator trained in the care and operation of the machine FREE for 3 days in the U.S.A.
- Machines serviced FREE in the U. S. A. for 30 days by factory experts.

THE ANDERSON CELLOPHANE BAG MACHINE IS UNCONDITIONALLY GUARANTEED

For a complete description of the amazing ANDERSON CELLOPHANE BAG MACHINE, write today for your copy of Bulletin P-1. Sample bags will also be mailed for your inspection.

The P. H. DIFFENBAUGH Company

2903 HALL STREET · DALLAS 4, TEXAS

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Cans of Distinction

HERE are "customer-catching" cans—designed and made *exclusively* for your product. These lithographed containers combine easy brand identification with ideal product protection.

We also manufacture a complete line of round cans with stock designs for candies cakes and cookies.

Write today for our illustrated catalog.

"No other container protects like the can"

Empire Can Corp.

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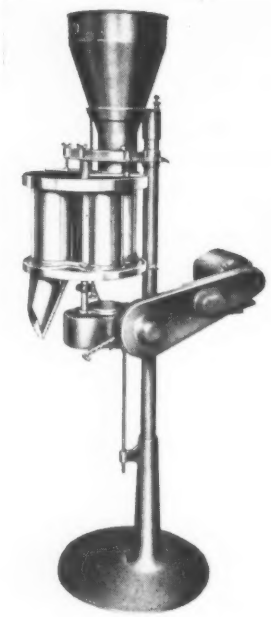
4 WAY FLEXIBILITY IN FILLING

with the

FILLMASTER

vibratory filling machine



1. Trouble-free vibratory hopper improves weight accuracy in filling free and slow flowing products—powders, cereals, candies, popcorn, nuts, nutmeats, breadcrumbs, fresh or frozen peas, *ALL* grinds of coffee, etc.

2. Three floor models, gram fraction to 10 pounds.

3. Height adjustable for placing over conveyor.

4. *ANY* speed from 10 to 120 fills per minute.

Inexpensive Noiseless Safe Easily cleaned

STUYVESANT ENGINEERING CO.

107 Stuyvesant Avenue Lyndhurst, N. J.

Better tobacco tins

(*Continued from page 99*) opening the tin have been just below the lid on the front and back sides of the otherwise familiar brown Briggs can.

With heat-sealed moistureproof cellophane enclosing the tobacco itself, the entire package is as nearly air tight as it is possible to achieve with an unsoldered can, Lorillard believes. The tobacco company is still conducting laboratory tests on moisture and aroma retention with samples of the new cans taken at random from the packaging line after they have been subjected to a wide variety of storage and shipping conditions. From data compiled so far, it appears that shelf life of the package is practically unlimited, Mr. Necas says.

Because of the large volume of tins used, it is expected that the cost of re-tooling necessary to make the new can can be amortized without increasing its cost and eventually the package may be less expensive. A complete new assembly of dies and equipment has been installed in the can maker's plant.

Complete cans are shipped closed to the Briggs plant in Middletown, Ohio. A special opening device has been attached to the automatic packaging equipment that flips the lids open before the filled cellophane bags are inserted. The cellophane cartridges are automatically filled, weighed, sealed and inserted in one operation.

The new Briggs container is believed to be the first can that combines the advantages of both hinge-top and friction-seal closure. The combination has many possibilities in the packaging of food products, spices and pharmaceuticals.

CREDITS: *Lithographed cans, Federal Tin Co., Baltimore, Md. Cellophane, Sylvania Div., American Viscose Corp., New York.*

Polyethylene permeability

(*Continued from page 201*) high as 36% have been reported (9). The greater-than-expected permeabilities of halogen- and nitrogen-containing liquids might be explained from swelling data.

The effect of pressure was not taken into consideration in this work. However, pressure is undoubtedly an important factor and further work along this line might explain some of the apparent exceptions which have been found. Under low pressure conditions it has been shown that the diffusion rate of gases through films is proportionate to the difference in pressure of the gas on the two sides of the film.

Very little work has been done up to this time concerning the effect of orientation and crystal structure in the barrier film on transmission rates. It is believed that orientation is not of particular importance, but that crystallization may have some appreciable effect on the permeability rates.

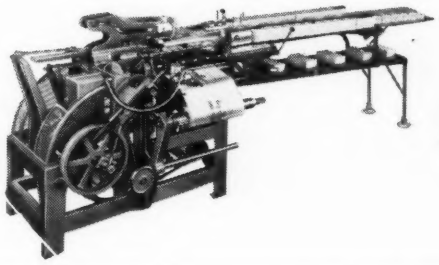
If similar permeability tests were run on other ma-

CHECK FOR YOURSELF THE ADVANTAGES OF HAYSSEN WRAPPING MACHINES

IT PAYS TO WRAP THE HAYSSEN WAY

Hayssen Wrapping Machines are sturdily built to give years and years of steady, dependable service. Easily adjustable to cover a wide range of sizes in length, width, and depth of cartons, the Hayssen will fit most wrapping needs. Whether you use heat-sealing cellophane, foil, waxed paper, or other types of wrapping materials, there is a Hayssen that will serve you without injuring the contents of your package. The Hayssen can be hooked into automatic line conveyors or operated separately. An outline of your requirements sent to the factory will bring specific recommendations. Write for Hayssen facts and then compare.

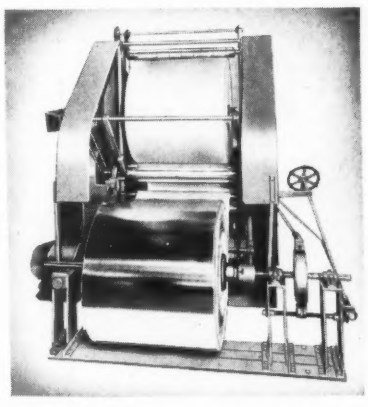
HAYSSEN MFG. COMPANY . SHEBOYGAN, WIS



Hayssen
ELECTRIC EYE WRAPPING MACHINES

Announcing

THE NEW KIMBELL HI-SPEED SPOOLER



★ A Precision Built Synchronized Spooler

★ Maximum Speed 2000 FPM

★ Silent operation No gears

★ Width Cuts 2" to 40" Series wind—Multiple Cuts

★ Finished smooth hard-rolls separate without pounding

Here is the spooler you've dreamed of . . . an entirely new design so basically simple that its high speed quiet operation is amazing.

The Kimbell Hi-Speed Spooler has been developed especially for slitting, trimming and rewinding paper and laminated foil from 10 lb. tissue up to 10 pt. board.

The special rewind mandrel and unwind stand accommodate rolls 2" to 40" O.D. and multiple width cuts from a minimum of 2" upward.

For uniform density, high quality shipping rolls that give perfect results in high speed printing and processing machines, the Kimbell Hi-Speed Spooler can absolutely be depended upon at all speeds.

Special Designs 16" to 120" widths—90 day delivery.

Write for Complete Information and Prices.

WM. S. KIMBELL, ENG.,
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We can give you immediate help on such diverse problems as label design, procurement, and effective methods of adhesion and application. Our two plants, strategically located on the East and West Coasts, are equipped for the low-cost mass-production of multi-color, quality labels of these types:

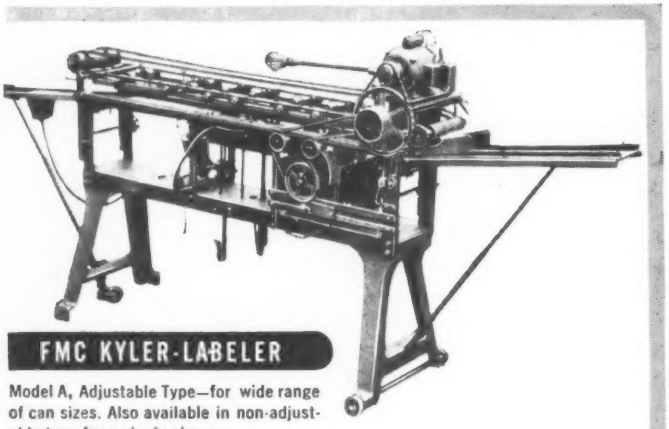
- **Roll, flat, die cut**
- **One or more colors**
- **Heat seal (thermoplastic) labels (rapid and delayed action)**
- **Gummed and ungummed**

Submit your problems. We'll answer promptly with sound solutions.

There's a Miller and Miller man in your vicinity.

Miller AND Miller INC.
136 MARIETTA ST. ATLANTA, GA.
4006 PACIFIC AVE. TACOMA, WASH.

An Inexperienced Man Can Operate This Labeler...

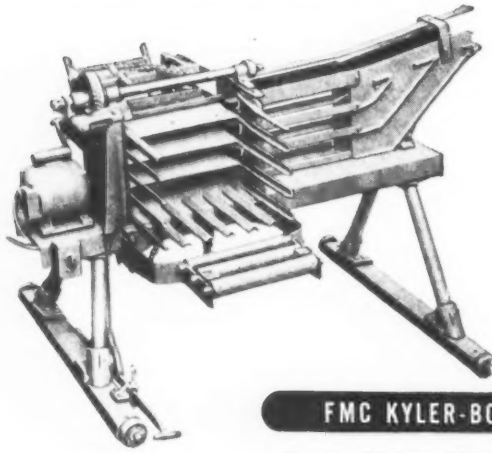


FMC KYLER-LABELER

Model A, Adjustable Type—for wide range of can sizes. Also available in non-adjustable type for a single size can.

FMC-Kyler Labeling Machines are built with such extreme simplicity that an inexperienced worker can operate the machine and make all can-size adjustments.

While these versatile machines can be operated at extremely high speed when peak capacity is required, they are designed and constructed to maintain high efficiency at low speeds also.



FMC KYLER-BOXER

Requires Minimum Man Power and Floor Space.

Model P shown here is Motor Driven, and built for any single size can. Operates at maximum speed. Extremely rigid and sturdy for long-life and low-cost operation.

FIGHT MOUNTING COSTS WITH FMC MODERN MACHINERY

Write for this 260-page Catalog showing complete FMC Modern line of canning, processing and warehouse machinery.

FOOD MACHINERY CORPORATION

SPRAGUE-SELLS DIVISION • HOOPESTON, ILLINOIS

BALTIMORE • NEW YORK • SAN JOSE, CALIFORNIA (ANDERSON-BARNGROVER DIVISION)

K-401

terials such as polyvinylidene chloride, more light might be shed on the mechanism of molecule transfer. By using films having some polarity, the effect of polar groups on the permeating molecules could possibly be better understood.

Special notes

As might be expected from the selective nature of polyethylene as a permeable membrane, there is a possibility of purifying or separating chemicals using polyethylene barriers. At least one indication of separation and purification was encountered during this work.

The sample of dibutyl ether used in test No. 4 had a slight straw color, indicating an impurity. The liquid permeated quite rapidly and over the several-days length of the test it was noted that the color of the liquid remaining in the bag became darker with time. When all the liquid had escaped there remained only four or five drops of a dark colored, very viscous material and it was assumed that this was the impurity causing the straw color. Some of the dibutyl ether which had passed through the polyethylene bag was collected and found to be water white.

A. H. Warth (10) has run numerous tests on polyethylene cap liners and has found that polyethylene makes an excellent cap liner for many liquids, but that in quite a number of cases it fails completely. Using these permeability data, it was found that at least 90% of the failures and successes could be explained on the basis of permeability rates.

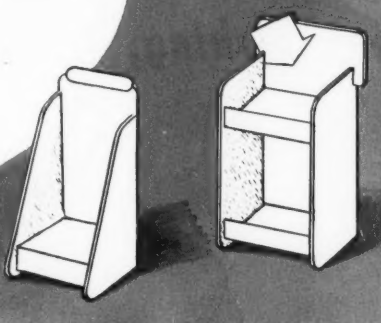
References

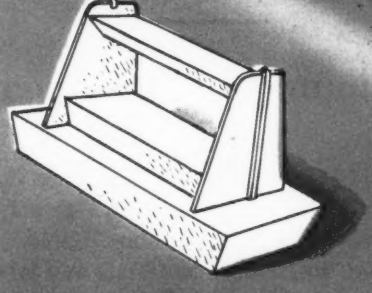
1. R. M. Barrer, "Diffusion In and Through Solids," University Press (1941).
2. J. H. Hildebrand, "Solubility of Non-Electrolytes," Reinhold Publishing Corp., 2nd Ed., p. 133 (1936).
3. G. J. van Amerongen, "The Permeability of Different Rubbers to Gases and Its Relation to Diffusivity and Solubility," *J. Applied Phys.*, Vol. 17, p. 972–985 (Nov., 1946).
4. J. C. Maxwell, "Electricity and Magnetism," Oxford Vol. II, p. 434 ff. (1892).
5. W. A. Waters, "Physical Aspects of Organic Chemistry," D. Van Nostrand Co., p. 55–57 (1936).
6. S. O. Morgan and W. A. Yager, "Dielectric Properties of Organic Compounds," *Industrial & Engineering Chemistry* (Industrial Edition), Vol. 32, p. 1519–1528 (Nov., 1940).
7. Paul M. Doty, Report of Project QMC-36, Coated Fabrics and Thin Films (Chap. 2 on Temperature Dependence of Water-Vapor Permeability).
8. C. S. Myers and F. R. Phillips, Permeability of Polyethylene Film and Sheeting to Volatile Liquids, abstract of Report DL-32, Bakelite Corp.
9. A. E. Maibauer and C. S. Myers, Polyethylenes, Transactions of the Electrochemical Society, Vol. 90, p. 463 (1946).
10. The Crown Cork & Seal Co., personal communication.

CORRECTION. A typographical error which was overlooked by the advertising proofreaders resulted in a misstatement in the advertisement for Gustave Rubner, Inc., which appeared on p. 169 of the June issue. The Glazed Spanglette material which was featured in the ad does not come in "rooms" 35 and 36 in. wide, but in *rolls* of that dimension. The Advertising Department regrets the error.

One Call for All

River Raisin
DIMENSIONAL DISPLAYS





A new and different service by River Raisin . . . as convenient as your telephone . . . a complete organization skilled in the creation and production of promotional and merchandising point of sale counter and window displays . . . from the basic idea to the finished display . . . *One Call for All.*

RIVER RAISIN PAPER COMPANY, DISPLAY DIVISION
Monroe, Michigan

RIVER RAISIN PAPER COMPANY • CORRUGATED AND SOLID FIBRE SHIPPING CONTAINERS
PACKING MATERIALS • FIBRE BOARDS • CORRUGATING STRAW • SILICATE OF SODA

LUSTEROID

Goes Fishing, too!

Helps Fishing Tackle Manufacturer Produce Unique Whistling Bobber . . .

In developing their new whistling bobber, the W. J. Jamison Co. of Chicago required a tube that would be colorful and light in weight, yet strong, rigid and unbreakable.

A standard Lusteroid container in opaque red and punched as specified proved to be the practical answer in meeting the specific requirements.

This is typical of the flexibility of Lusteroid vials and tubes in meeting special applications as well as protective packaging requirements.

Write for complete details on these modern plastic containers.

LUSTEROID CONTAINER COMPANY, INC.
10 Parker Avenue, West
Maplewood, New Jersey

Frozen fish

(*Continued from page 123*) the extent to which such odors might be transferred. Packaged fish and butter were stored in close proximity to each other in a refrigerated locker for nearly a year. The fish were wrapped in water-vaporproof material of the cellulose-derivative type, while the butter was wrapped in vegetable parchment, the customary wrap for butter. Butter was selected because of its susceptibility to the absorption of foreign odors or flavors and the ease with which they can be detected by tasting. Samples of butter were removed at intervals and judged for quality by a professional butter grader. After nearly a year of storage with fish, the butter maintained a high score and no absorption of odors by the butter was observed by the expert grader. These tests demonstrated that by proper wrapping in good quality frozen-food packaging material, fish can be stored with other frozen foods with little chance of odor transfer.

The quality of frozen fish and shellfish is determined to a large degree by the quality of the product at the time of freezing and the manner in which it is stored.

The function of the package is to help maintain that quality from the time the product is prepared for freezing until it is opened by the consumer. Care in selection, processing and storing may be entirely wasted unless the product is adequately protected until it is consumed.

Packaging will expand market

New packages and methods of packaging can help in merchandising frozen fishery products. Self service makes it easier for the consumer to decide for himself which product he will choose. Quality of product and the use of attractive packages and informative labeling can aid materially in furnishing the customer the required incentives for purchasing.

With the development of improved packaging and freezing techniques will come the expansion of markets for fishery products. These products can be frozen when supplies are plentiful and held until needed by the consumer. By packaging and quick freezing immediately, they are preserved at their peak of quality.

Cellophane prices up again

The Du Pont Co. has announced an advance in its cellophane price schedule, effective Aug. 1, averaging approximately 6½%, ascribed to "greatly increased costs of raw materials and labor." Since 1941, the company said, the cost of materials and labor entering into cellophane had increased about 65%.

The only other increase the company has ever made in cellophane prices was in 1947, averaging 7%. Previous to that time, there were 21 successive price reductions. The new prices will be from one to five cents per pound upward, depending upon type and grade.

It's a Gift

... or is it?

Actually, the creation of smart, effective decorative wrappings is a combination of special skills. And not the least of these is the skill of the plate-maker . . . in this case—as in so many others that feature distinctive printing—MOSS TYPE CORPORATION.

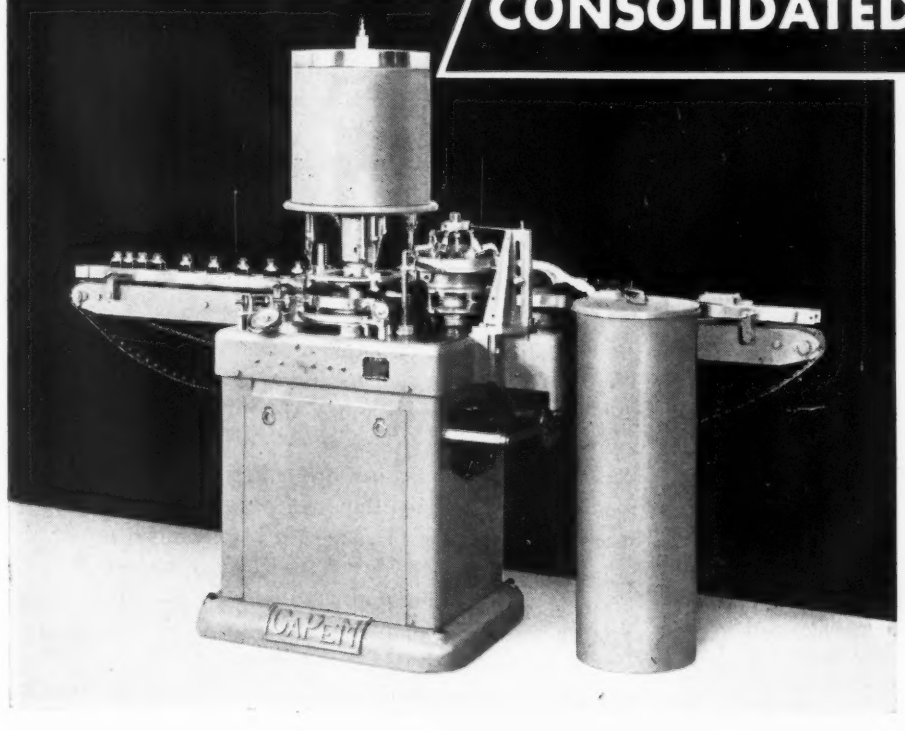
A collection of representative wrappings printed by Western Printing and Lithographing Co., Racine, Wisconsin, from Mosstype Continuous-Design Rubber Printing Rollers.

MOSSTYPE CORPORATION
33 Flatbush Avenue
Brooklyn 17, New York

pre-madeready MOLDED RUBBER PLATES • DESIGN ROLLERS

Write today for details of
MOSSTYPE "Art-to-Plate" SERVICE
and free copy of valuable
RUBBER PLATE REFERENCE SERVICE

CONSOLIDATED KOTTONERS



Take the Kinks Out of Capsule and Tablet Lines

- Follow the basic design of the famous CAPEM line of automatic cappers.
- Meet the broadest possible range of requirements.
- Capacities range from 40 to 100 containers per minute.
- Protect sterility of wadding.
- Wadding easily removed from bottle by consumer.
- May be changed from one size container to another in 15 minutes.

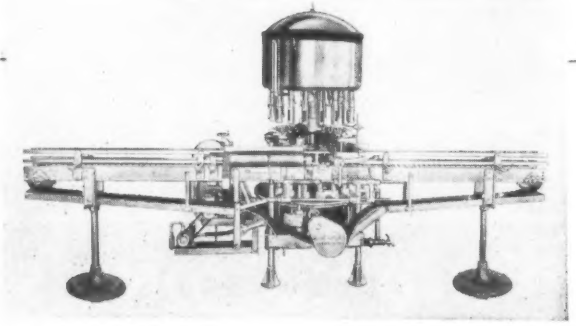
Write for information.

CONSOLIDATED PACKAGING MACHINERY CORP.

1400 West Avenue, Buffalo 13, N. Y.

Unique Filling Principle
handles still liquids
with top efficiency

it's called GRAVITY-VACUUM
. . . exclusive with HORIX



Only Horix gives you gravity-vacuum filling, so that you can fill many liquids with an efficiency not equalled by straight gravity or straight vacuum methods. You get the simplicity of construction possible only on a straight gravity filler, plus a unique adaptation of the best features of vacuum filling. This means trouble-free, *profitable* filling of many light liquids such as insecticides, drugs, cosmetics, liquors, wines, juices, and a variety of sauces and condiments. Container sizes range from ounces to gallons, either standard or special shapes, with neck openings as small as 3/8". Horiz Fillers are always individually engineered, to meet each user's special production requirements.

You may now be filling (or planning to fill) one of the many products for which Horix Gravity-Vacuum Filling is ideally suited. Why not find out . . . *today?* No obligation—just write, describing product, container, and stating desired filling speed, to Horix Manufacturing Company, Dept. D, Pittsburgh 4, Penna.

HORIX MANUFACTURING CO.
DEPT. D
PITTSBURGH 4, PENNA.
CONVEYORS *and* FILLERS

Packaged vs. bulk ice cream

A vote of four to one for packaged over bulk ice cream in a survey of ice-cream retailers in four large cities representing the South, the Midwest and two regions of the East gives further indication of the extent to which dealer preference has swung to factory-packaged over bulk-dip ice cream for the take-home trade.

The survey has been made recently by A. S. Bennett Associates of New York for Sealright Co., Inc., covering all phases of ice-cream retailing.

The four cities were combed extensively for all three of the main classifications of ice-cream dealers: drug stores, confectionery stores, groceries and supermarkets. Owners or managers of 95% of the stores cooperated with the interviewers in going through the three-page questionnaire. Three-fourths of the stores included in the survey were in neighborhood shopping sections and one-fourth in the downtown business districts.

Of all the stores, 63.5% handled packaged ice cream only; 33.7% handled both packaged and bulk which they dip for take-home; 2.8% handle bulk only. Of those handling both packaged and bulk, 57% of the owners said that they prefer to handle packages, 29.3% said they have no preference and 13.6% said that they prefer bulk.

"Easier to handle and quicker" predominated among reasons given for the preference for handling pre-packaged ice cream.

Some confusion is still indicated by the opinions on comparable profits between packaged and bulk. The big pre-package contingent cited saving of labor and definite measure of volume and profits when dealing in packages. The relatively small number of bulk advocates still believe there is more money in dipping for the take-home trade.

Drug stores voted for packaged ice cream seven to one and confectionery stores voted for it two to one. As is to be expected, only three of the groceries and supermarkets dealing in ice cream in the four cities are handling bulk. To the question: "Do your customers feel that quality of packaged ice cream is as good as it should be?"—three-fourths of the store owners said "yes." "Yes" was two to one in drug stores, eight to one with grocers and more than three to one with confectioners. Replies as to brand preference indicate trademark merchandising opportunities are still wide open. Only 37.4% of the stores said customers sometimes expressed a preference for a particular brand.

More than two-thirds of the dealers reported that their ice cream manufacturers gave them advertising support. Display material is the type of advertising mentioned most often.

Retailers estimated in the aggregate that three out of every four customers entering their stores and purchasing ice cream had intended to purchase it when they came into the store. They agreed that the job of creating impulse buying of ice cream is largely one that has yet to be done.

Another Major Packaging Development by *Marathon!*

Kartridg-Pak continuous banding first established "brand name buying" of link sausage products.

Kartridg-Pak continuous heat-sealing banding is only one of many packaging "firsts" developed by Marathon—specialists in protective packaging for America's foods.

•

This recent advertisement in Meat Merchandising points out to meat dealers everywhere the unique selling advantages of Kartridg-Pak.

MARATHON CORPORATION
MENASHA, WISCONSIN

HERE'S WHY DEALERS LIKE . . .

Kartridg-Pak BANDED WIENERS

Dealers prefer *Kartridg-Pak banded* frankfurters and other link sausages because of their strong merchandising value. Banded sausages are easily handled, make attractive store displays, can be quickly separated and wrapped into neat bundles. Kartridg-Pak stimulates impulse buying, builds steady store traffic. Ask your packer for more information.

MARATHON PROTECTED BY MARATHON

Marathon Corporation, Menasha, Wis., Mfrs. of Kabnet Wax, Marathon Pails and Dishes

"Just the thing for Uncle Oscar or Aunt Amanda," they'll say when they see your product packed the attractive, transparent plastic way on the counter.

•

Weinman containers stop the passing shopper and make spur-of-the-moment sales.

•

Send for samples and suggestions.

WEINMAN BROTHERS, INC.
325 N. WELLS ST.
CHICAGO, 10

(Experienced Salesmen Write)

WAXES

For paper board impregnation

ZOPHAR MILLS 102 YEARS

FOR DIP COATINGS
EMULSIFIED WAXES
COATING WAXES

•

Meet Army and Navy specifications
WAXES FOR FUNGUS PROOFING
Our laboratory will welcome your problems

•

Zophar Mills, Inc. has been known for its dependable service and uniformity of product since 1846.

ZOPHAR MILLS, Inc.
Established 1846
106-26th Street • Brooklyn 32, New York

Wilmet joins Loewy

Of wide interest to the packaging field is the announcement that Raymond Loewy Associates, industrial designers, have acquired the business of Georges Wilmet, packaging consultant. As a member of the Loewy organization, Mr. Wilmet becomes packaging consultant and director of that firm's foreign business, but will continue to serve his own accounts with the Loewy organization. For nearly 20 years he has been designing packages for such companies as American Home Products, Bristol Myers, General Foods, Lily Tulip Cup, Standard Brands, Vicks Chemical and some 40 other large companies. Fourteen companies in Canada, South American and Europe have retained Mr. Wilmet, a Belgian by birth, for package design, so that he has had wide experience in the international field. Loewy has foreign offices in Sao Paulo, Brazil and London.

G. Wilmet

In pointing out the advantages of the collaboration, Mr. Wilmet said, "I have often been handicapped because my office could not offer correlation services which a firm like Loewy can. By this union, packaging accounts will be assisted in other types of design—transportation, building, retail planning and product—so important today in the comprehensive over-all planning of modern merchandising."

Of 18 entries in 10 packaging competitions since 1936, Mr. Wilmet has won 15 awards, many in MODERN PACKAGING's All-America Package Competition.

Confectioners' show

Nearly a third of the 120 exhibitors at the 22nd Annual Confectionery Industries Exhibition, New York, June 20 to 25, were manufacturers of packaging supplies and equipment.

Visitors at the exhibition, held in conjunction with the 65th annual convention of the National Confectioners' Assn., expressed increasing interest in eye-appeal packaging, particularly for those types of packages suitable for attracting impulse sales on self-service counters and in modern food stores.

According to figures presented to the convention by George F. Dudik, Food Section, Office of Domestic Commerce, about 76% of all candy and confections are now sold in packaged form, nearly 60% in bar goods.

In the booths were seen a number of ideas for multiple-unit packages suggested to spur candy sales of the "take-home" variety in the food store and to overcome single candy-bar sales.

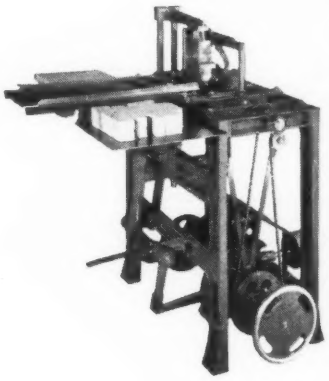
A number of food stores throughout the country have adopted the multiple unit for many of their candy bars, according to DuPont. So far, the food stores are wrapping the units themselves, but the Schutter Candy Co., among others, has started packing multiple units of "Old Nick" and "Bit O'Honey" bars. Schutter

Built For Efficiency

These Peters Packaging Machines have been designed to help your production. Their beauty is in the uniform results obtained hour after hour—year after year. The unfailing efficiency of their service provides greater savings in time, labor, and materials. Where every minute counts and accurate control is a vital factor, these sturdy machines will operate at the lowest possible cost.

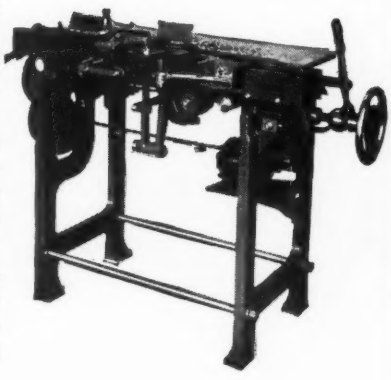
Send us samples of the cartons you are now using. We will gladly make recommendations for your requirements.

Visit our booth #21 at the Western Packaging Exposition, San Francisco, August 10–13.



This PETERS JUNIOR CARTON FORMING AND LINING MACHINE sets up 35–40 cartons per minute, requiring only one operator. After the cartons are set up, they drop onto a conveyor where they are carried to be filled. Machine can be made adjustable to set up several size cartons.

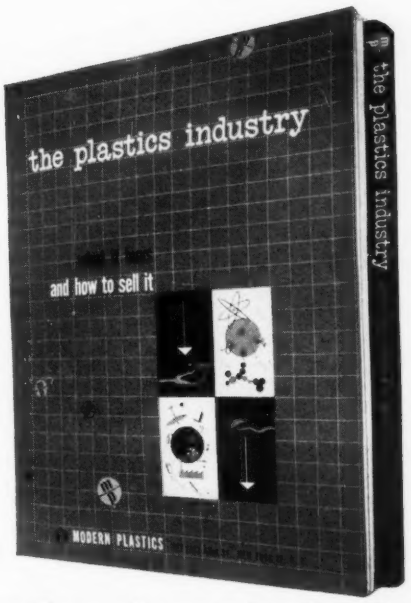
This PETERS JUNIOR CARTON FOLDING AND CLOSING MACHINE closes 35–40 cartons per minute, requiring no operator. After cartons are filled, they enter machine on conveyor and are automatically closed. Can also be made adjustable to close several different size cartons.



PETERS MACHINERY COMPANY
GENERAL OFFICE AND FACTORY
4700 RAVENSWOOD AVE., CHICAGO 40, ILL.

how to figure your sales potential in the plastics market

free market analysis of the plastics industry



40-page data file packed with up-to-date facts and figures. Lists 101 kinds of capital equipment, supplies and short-life equipment used by the industry.

This new 40-page data file contains up-to-date facts, figures, charts, graphs, and maps—lists actual plant inventories on 101 different kinds of capital equipment, 40 principal items of supplies and short-life equipment—raw material production through the last ten years—geographical location of industry—tips on selling and advertising. You'll find it helpful in figuring your sales potential and in planning sales, distribution and advertising.
The plastics industry may represent a good market for your product. This data file will help you evaluate the plastics industry as a potential market and help you plan sales distribution and advertising.

FREE: **Write or clip coupon on your company letterhead and mail to us.**

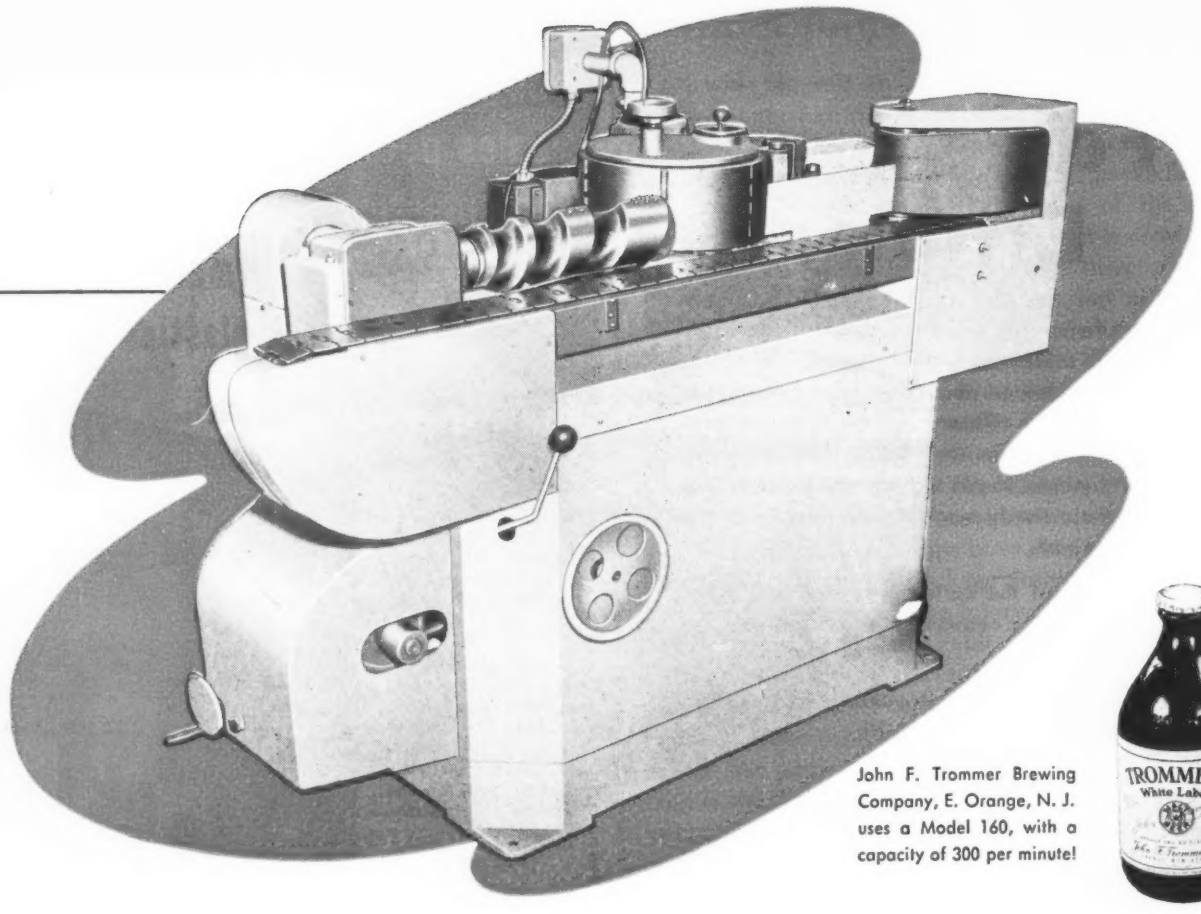
MODERN PLASTICS
MAGAZINE
122-PE EAST 42nd STREET, NEW YORK 17, NEW YORK

MODERN PLASTICS MAGAZINE
122-PE East 42nd Street, New York 17, New York

Gentlemen:
Please rush my copy of your new 40-page data folder entitled, "The Plastics Industry—What it Buys and How to Sell it."

We are particularly interested in advertising .....
..... (product or service).

Name .....
Position .....
Firm .....
City ..... Zone .... State .....



John F. Trommer Brewing Company, E. Orange, N. J. uses a Model 160, with a capacity of 300 per minute!

Labels 300 bottles per minute — without glue!

Here, on the high-speed fully automatic LABEL-*DRI*,* is proven performance. Made to handle a continuous flow of bottles or jars with exceptional precision registry of labels. Effective on wet or dry bottles. Silent, *smooth* performance without use of cams or reciprocating motions. NO GLUE — and no fussing because thermoplastic labels (from your own printer) are used. Shows an immediate saving in labeling cost.

Write for details!

*Reg. U. S. Pat. Off.

NEW JERSEY MACHINE CORPORATION *Makers of the Pony Labelrite*

1510 WILLOW AVE., HOBOKEN, N. J. CHICAGO, CINCINNATI AND LOS ANGELES

900

features a cellophane-wrapped unit of six bars which, for these particular items, has been found to be the most satisfactory size. Other special ideas for take-home packages were shown, such as a simulated school bag—cellophane overwrapped and containing 10 small cellophane-wrapped candy packages, a two-weeks' school supply—a "Suits Four" bridge package, and others.

In the Central States Paper & Bag Co. booth was a polyethylene bag suggested as a candy package. Its lack of transparency cannot compete with the transparent films, but pointed out were the superior protective properties of the polyethylene for maintaining freshness and preventing the entrance of moisture.

Suppliers of decorated and lithographed metal containers had many new designs on view. There were also many transparent boxes in the exhibits, as well as molded plastic boxes in the shapes of hearts for Valentine's day, eggs for Easter, etc. Many new ideas were also suggested for confectionery packages of aluminum foil, including new cartons in small sizes provided with heat-sealing coatings.

New Food-O-Mat shelving

Labels face shopper in the redesigned Food-O-Mat gravity-feed merchandise display fixtures. The new models eliminate previous disadvantage of having

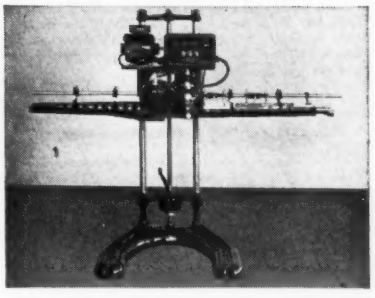
packages roll on their sides, thus impairing readability (MODERN PACKAGING, Dec., 1946, p. 134). Improved visibility is achieved by all-slide arrangement on new type of track. Construction improvements cut erection time. Models are in two sizes—for supermarkets and narrower-front stores. About 100 Food-O-Mats are now in use.

Amsco

ALL THE FEATURES YOU WANT FOR BETTER BAG SEALING

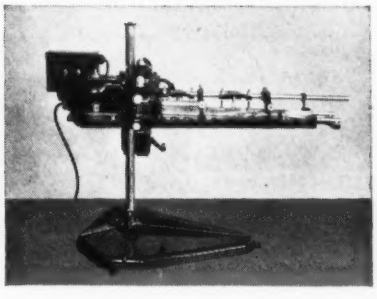
3 MODELS (OF MANY) TO FIT YOUR EXACT REQUIREMENTS

1 AMSCO HI-SPEED AUTOMATIC ROTARY BAG SEALER MODEL DC



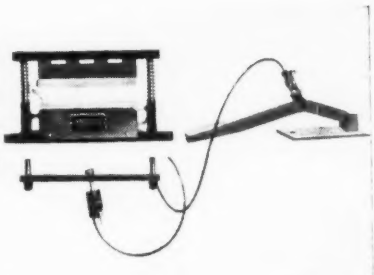
• Simplex Wrapping Machine Co. Oakland, Calif. (Far West)

2 AMSCO HI-SPEED AUTOMATIC ROTARY BAG SEALER MODEL S



Represented by: Miller Wrapping & Sealing Machine Co., Chicago, Ill. (South & Midwest)

3 AMSCO FOOT OPERATED BAG SEALER MODEL SS-7



FREE

Write today for illustrated brochure

You find every packaging feature that "pays off" for you in increased production at lowest cost in Amsco bag sealing machines. Maintain a fast, steady flow of sealing bags with no handling — bags *automatically* carried through folding, and sealing operations.

No other machines offer so much for so little!

AMSCO PACKAGING MACHINERY

Amsco Packaging Machinery, inc.

31-31 48th AVE. • LONG ISLAND CITY 1, N. Y.

All classified advertisements payable in advance of publication. Rates: $5.00 up to sixty words; enclosed in border, $10.00 per inch.

Classified Advertisements

Publication reserves the right to accept, reject or censor a classified copy.

WANTED: MECHANICAL engineer with wide experience in wrapping and packaging machine design. Permanent position with old established firm located in attractive residential community. Box 695, Modern Packaging.

"HORNE-BILT" packaging conveyors for bottles, jars, cartons, cans. Prompt delivery. Furnished interchangeably with "Rex" Table-Top Conveyor Chain, Canvas or Rubber Belting, in standardized bolted sections for lengthening or shortening. Also Transfer Discs, Accumulating Tables, Unscramblers. Many exclusive engineering features. Write for descriptive bulletin and price-list. DEALERS: Choice territories available. Horne Machinery Co., Inc., 1188 Harrison St., San Francisco 3, Calif.

PACKAGE DESIGNER—Desires position as art director and designer. Thirteen years experience in design and finish for major carton and bag companies. Reply Box 630, Modern Packaging.

SALESMEN: PREFERABLY with experience selling laminated and coated products such as are listed in our advertisement in this issue of Modern Packaging. Excellent territories available to right parties. State qualifications, age, experience and territory covered in first letter. Also if interested in salary or commission and amount. Floyd A. Holes Company, Bedford, Ohio.

EXPERIENCED FOLDING Carton Sample Maker. Excellent opportunity with large national manufacturer located New York City. Replies confidential. Our employees know of this ad. Box 683, Modern Packaging.

FOR SALE: Excess inventory flat cellophane bags: 1,688,000—1½ x 3⅜ 45,000—2 x 6, 306,000—3 x 3, 87,000—6 x 9¾, 87,000—6¼ x 10¼, 481,000—Sleeves, open both ends, 7 to 7 12/16" wide, 10 to 20" long. Samples available. No reasonable offer refused. Write Box 702, Modern Packaging.

TOP SELLING job abroad—Permanent Latin American Assignment for Ethical Drug Detailman. Excellent Future—Overseas Bonus. If you're a young, aggressive detailman and want your star to rise fast, here's the chance of your lifetime . . . for this job leads to a top executive position with a solid organization. You must have ethical drug experience, promotional instinct, administrative ability to start with . . . the rest is up to you. Spanish language an asset. Give us details, salary requirements, etc., now. Strict confidence. Must be available for New York interview. Box 703, Modern Packaging.

SWISS PACKAGING trade concern: Swiss manufacturers of cardboard packaging material wish to contact supplier of plastic (transparent film) for exclusive business in Switzerland. Well staffed with skilled labour; references available. Apply to Box 2500, c/o Modern Packaging.

REPRESENTATIVE WANTED—Reputable and established manufacturer of specialized thermoplastic adhesives and coatings seeks the services of qualified sales representatives in various locations to develop markets and aggressively promote products on a protected commission basis. Initial letter should contain full information and references. Box 704, Modern Packaging.

SWISS PACKAGING trade concern wants sole agency of American manufacturer of modern packaging material. References and guaranties available. Apply to Box 2500, c/o Modern Packaging.

SALESMAN WITH experience and good contacts on Box Covering Papers or Special Papers for Packaging and Industrial purposes. An excellent opportunity and a good future for a producer. Charles F. Heaphy Company, 420 Lexington Avenue, New York 17, N. Y.

FOR SALE—1" Mystik waterproof tape OD color; 3" Bauer & Black #247 black; large quantities, all original packing, excellent condition. Box MP 1657, 113 West 42nd Street, New York 18, N. Y.

SALESMAN WANTED, experienced, to handle profitable, quality line of plastic bags, aggressively advertised. Prefer man already calling on paper jobbers, consumer goods suppliers, packers and manufacturers of food, drug items. Write National Shipping Supply, 1828 Main, Kansas City, Missouri. State qualifications.

CHEMIST—research, product development, and production experience in laminated and coated films. Working knowledge of adhesives, resins, rubbers, and plastics. Considerable experience with packaging materials for foods and pharmaceuticals. Successful new product-production liaison. Will consider sales engineering position; own car. Free to locate. Box 705, Modern Packaging.

ENGINEER—Large manufacturer of packaged food with plants throughout the country needs engineer familiar with packaging operations and equipment, including carton forming, filling, wrapping, casing and bundling. Ability to design specialized equipment and improve mechanical operation of conventional equipment. Familiarity with paper and plastic packaging materials. Location, New York. Give details of education, recent experience, present earnings, etc. Box 707, Modern Packaging.

WANTED: Designing engineer with experience in wrapping or packaging machinery. Permanent opportunity for qualified person with old established midwest machinery manufacturer. State experience, age, and qualifications in your reply to Box 706, Modern Packaging.

FOR SALE—Champlain gravure rotary press in practically new condition. Will print two colors by gravure, score, blank, guillotine cut and stack cartons automatically. A third color unit may be added. Maximum printing width 16". Production 250 cuts per minute. (Multiply this by width of carton to get production.) Ideal for manufacturer using large number of small one size containers. Two operators produced 120,000 per hour at a substantial saving. Press may be purchased for about half what a new one would cost. Peter Paul, Inc., 1150 Orthodox St., Philadelphia 24, Pa.

FOR SALE—Ceco Carton Sealer with Automatic Glue Pump Model 1201. Three Holm Weighing and Filling Machines Model AND. One Amsco Rotary Sealer and 16 foot Stainless Steel Conveyor. These machines purchased new in 1946. Used very little. In clean and perfect condition. Box 708, Modern Packaging.

CLIPPER BAG making machine in good working condition with twenty forming plates for flat and gusset cellophane bags; attachments for duplex bags and additional glue center seam. Price—$850 for Quick Sale. Write Box 709, Modern Packaging.

FOR SALE—Several nearly new Roto Cellophane Bag Converting Machines, complete with electric eye, automatic two-way correction. Forty per cent off. Immediate delivery. Box 710, Modern Packaging.

WANTED: Designed and manufactured, one and possibly more, semi-automatic Dormant Rose Bush wrapping machine for plants, to be sold in large quantities through chain and department stores. Box 290, Modern Packaging.

WANTED SALESMEN—Packaging salesmen now selling allied lines to sell Weinman Transparent Plastic Boxes, Cans, Counter Dispensers. (See Display Add. this issue) Commission Basis. Mention experience, territory covered and lines now selling. Weinman Bros., Inc. (Est. 1919), 325 N. Wells St., Chicago 10, Ill.

WANTED MANUFACTURERS' agents throughout the U. S. who are now selling packaging and filling equipment. We manufacture a competitive line of automatic and semi-automatic liquid bottle fillers. We pay best deal in industry. In replying give territory you cover, lines now handling, number of men in your Organization, and length of time in business. Schaffner Industries, Schaffner Bldg., Pittsburgh 2, Penna.

FOR SALE—Used, Semi-Automatic cartoning unit, volumetric filler with micro-switch action. Two girls can make and pack 60,000 to 75,000 boxes a week. Adjustable for size and weight. Complete with dust collector, glue pumps, motors, hopper. Now in operation, but can deliver immediately. $3500 or best offer. Griffin Corp., 1215 N. Bosworth, Chicago 22.

EQUIPMENT FOR Sale: 3—Wrap Ade Bag Sealers, motor operated. 4—Over-Under Scales, Exact Wt #273. 7—Over-Under Scales, Exact Wt. #213. 5—Jacketed Kettles, 80 Gal. Stainless Stl. Plant Equipment Co., 946 Betts, Cincinnati 14, O.

PAPER ESTIMATOR: Permanent position with old established folding box manufacturer. Must have at least five years estimating experience in folding box or printing field. Reply stating experience, age, and salary desired. Box 711, Modern Packaging.

PACKAGE ENGINEER. Must be graduate engineer with experience with packaging machinery and package design. Capable of organizing dept. Not over 35 years of age. Write Standard Oil Company (Indiana), 910 South Michigan Ave., Chicago 80, Ill. Attention: File GTD-1-HJS

WELL ESTABLISHED manufacturer of complete lines of rigid transparent containers and cellophane bags seeks representation, jobbing or brokerage basis. Everett Transparent Container Corp, 251—3rd Ave., New York 10, N. Y.

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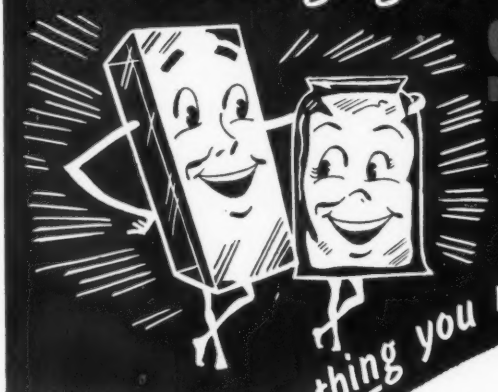

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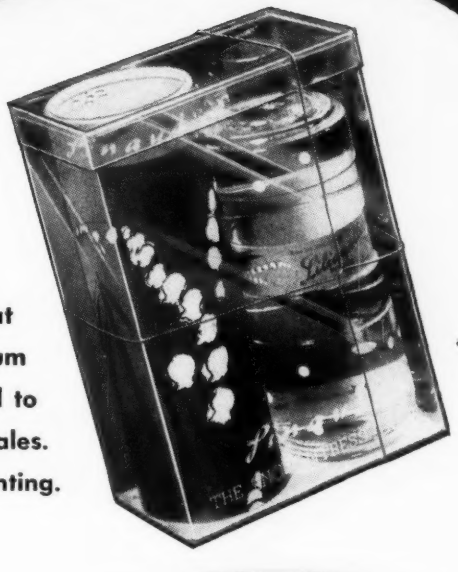

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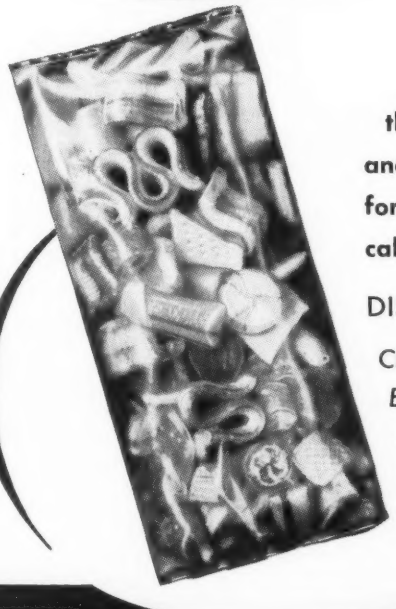

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Modern packaging

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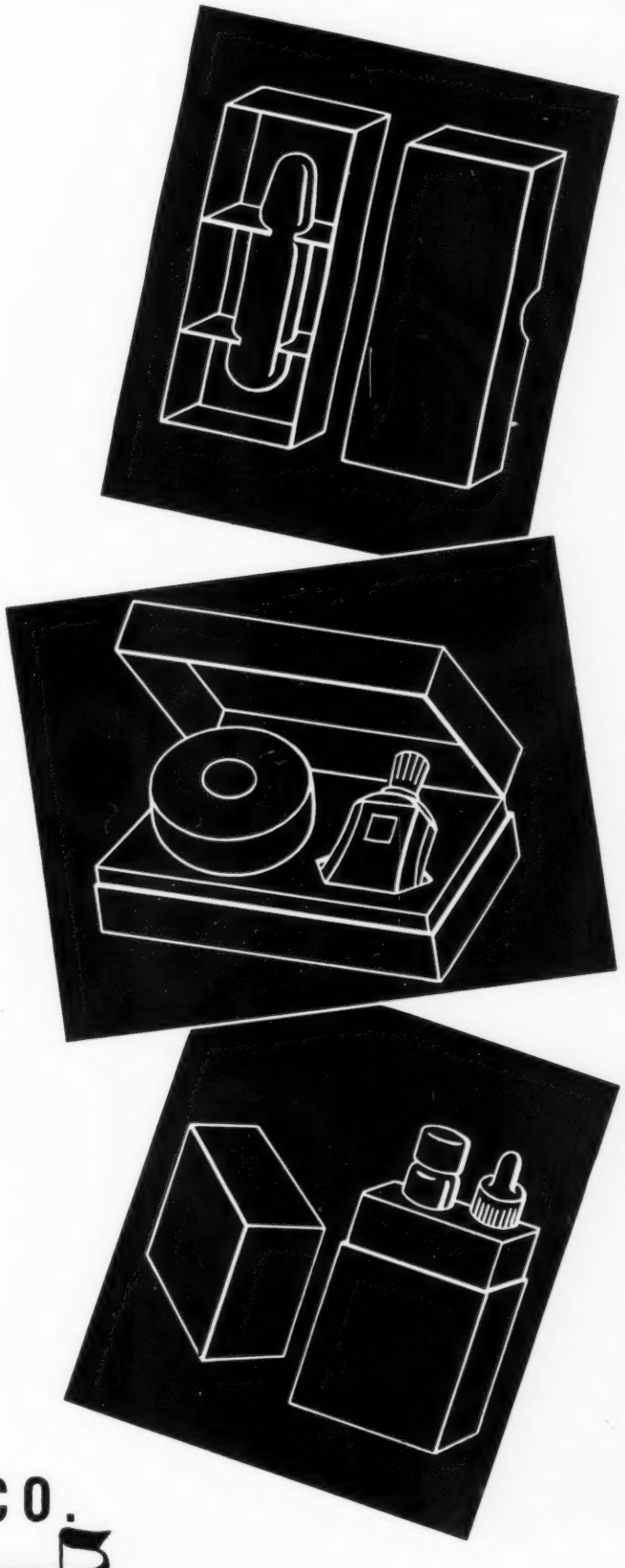
SPECIAL *Boxes* FOR *Special* PRODUCTS



Whatever the special requirements of your product, Kiernan-Hughes Company can produce a set up paper box that will protect it, display it and help it sell. In your boxes we can incorporate dividers, liners, blocks, platforms and supporters to shield delicate articles from shock. Kiernan-Hughes boxes are active sales inducers. According to specifications we label or cover them with appealing packaging papers.

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KIERNAN-HUGHES CO.

INCORPORATED 1903

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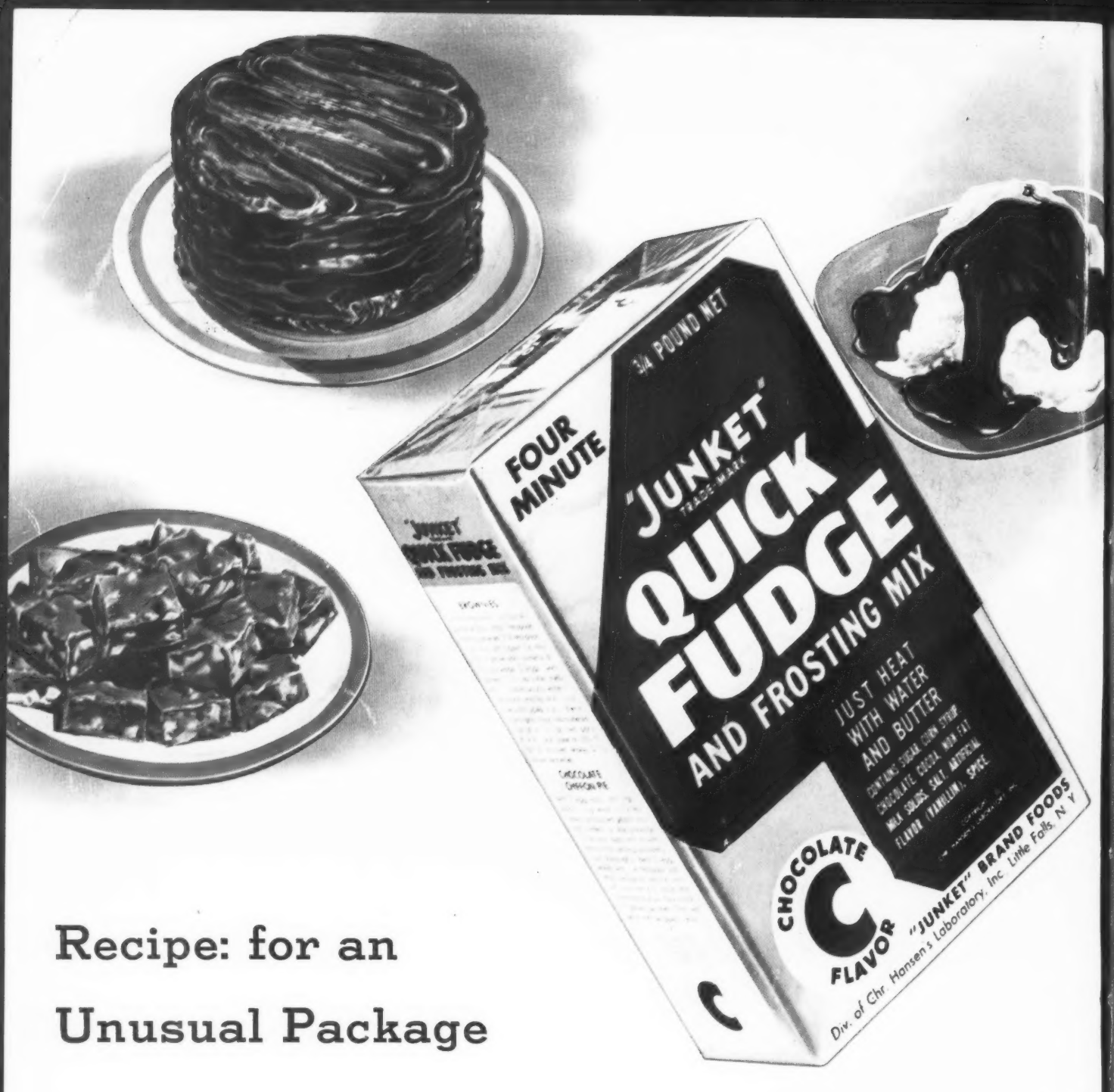

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